DE MACKNESS ON MEE CLEMATE OF HASINES

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HASTINGS

CONSIDERED AS

A RESORT FOR INVALIDS.

Aër nimirum purus et bonus, quo nihil ad vitam retinendam, et sanitatem conservandam, magis necessarium est, nec quicquam ad multos morbos sanandos utilius; scilicet sine quo medicamenta alio quin optima et efficacissima parum omnino volênt, et morbi, natura leves et facile sanabiles, maligni prorsus et sæpe insanabiles fiunt.

Conspect. Theor. Medicinæ, Jacobi Gregorii.

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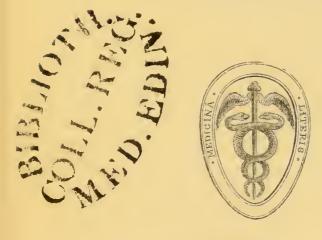
WITH TABLES, ILLUSTRATIVE OF

ITS TEMPERATURE, SALUBRITY, AND THE GENERAL CHARACTER OF THE CLIMATE, SHOWING ITS SUITABILITY IN PULMONARY AND OTHER DISEASES.

ALSO, DIRECTIONS FOR THE CHOICE OF A RESIDENCE, AND HINTS AS TO DIET, REGIMEN, BATHING, &c.

BY JAMES MACKNESS, M.D.

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LONDON:

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MDCCCXLII.

PREFACE.

In the great number of patients who came under my observation as Physician to the Hastings Dispensary, my attention was directed to the fact of the comparative unfrequency of some of the most fatal of those diseases, which in most other places are especially prevalent amongst the poorer classes of our population; in order more fully to ascertain how far my observations were correct, I classified the whole of the Cases which had occurred in the practice of this Institution during the twelve years it had been established; and more fully to verify the facts I had collected from this source, I had recourse to the Registrar's book of deaths for the four years, during which

it

the Registration Act had been in operation, carefully enquiring into each particular death recorded, in order to ascertain whether the individual had been an inhabitant of Hastings or only a visitor; by this process I found my former opinions of the salubrity of Hastings confirmed, and as no statistical facts connected with this subject had hitherto been collected, the results of my observations were published in the Medical Gazette of the 15th of April, and in the Lancet of the 17th of May, 1842.

In these statistical memoirs the positive fact was ascertained, that tubercular consumption was far more rare amongst the inhabitants of Hastings than in other places, whilst several diseases of a contagious character were either extremely rare or altogether absent. Upon mature consideration it appeared to me that these facts, which had been obtained by considerable labour, were worthy of a more durable record than that of a periodical, whilst they would afford satisfaction to those individuals who might resort to Hastings for its climate.

I had likewise, for the purpose of satisfying my own mind, and to enable me more decidedly to recommend it to a patient in whose case I thought it would be suitable, analysed one of the many chalybeate waters which abound in this vicinity,* and the result of this analysis convinced me so fully of its powerful medicinal efficacy, that I regarded its publication of considerable importance to the great number of invalids visiting Hastings, who might derive benefit from these waters.

I had also, at the request of Sir James Clark, compiled from the Meteorological Journal of the Hastings Literary Institution, several tables which appeared in the third edition of his valuable work on Climate; and these tables, with some further observations of the same kind made with a view more thoroughly to elucidate the character of the climate of Hastings, I have introduced into these pages; adding some general observations for the guidance of

^{*} The Chalybeate Spring is situated in the grounds of Frederic North, Esq. Hastings Lodge.

strangers in the selection of a suitable residence for certain diseases, and for certain seasons of the year, with some directions for invalids relative to clothing, diet, bathing, and exercise.

I have to present my warmest thanks to the secretary of the Literary Institution, and various other gentlemen who have kindly assisted me with information relating to the Meteorological and Statistical Tables.

22, Wellington Square, Hastings;
June, 1842.

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HASTINGS

A RESORT FOR INVALIDS.

CHAPTER I.

GEOLOGICAL CHARACTER OF THE SOIL OF HASTINGS.

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Pulmonary Consumption, says, "A cold, damp, and variable climate not only gives the predisposition to this disease, but becomes its exciting cause, and determines in an especial manner its local manifestation in the lungs." While, therefore, invalids thus predisposed continue to reside in a climate unsuitable to their disease, but little relief must be expected

from any medical treatment, however judiciously employed. It becomes an imperative duty for physicians to advise such patients to resort to a more genial clime. Perhaps, amongst the places deemed most eligible in our own country, the town of Hastings has been long and deservedly celebrated, especially as a winter residence, for invalids suffering from or predisposed to affections of the chest.

As it owes its peculiar salubrity of climate, in some measure, to the geological character of the soil, it will not be amiss to give a general description of its formation.

The present site of the town of Hastings, with the country adjacent, forms a part of what Doctor Fitton has so properly named, "The Hastings sand and clay formation," (iron sand formation,) and which has been so well illustrated by that able geologist, Gideon Mantell, Esq., in the Geology of Sussex: "The vast preponderance of the land and fresh water exuviæ over those of marine origin observable in these strata, warrants the conclusion that the Hastings beds were formed by a very different agent to that which effected the deposition of the Portland limestone below, and the sands and chalks above them. Whether the land were an island or a conti-

nent may not be determined, but that it was diversified by hill and valley, and enjoyed a climate of higher temperature than any part of modern Europe, is more than probable.

"Several kinds of ferns appear to have constituted the immediate vegetable clothing of the soil—the elegant Hymenopteris Psilatoides, which probably never attained a greater height than three or four feet, and the bcautiful Pecopteris Reticulata, of still higher growth, being abundant everywhere. It is casy to conceive what would be the appearance of the valleys and plains covered by these plants, from that presented by modern tracts, where the common fern generally prevails. But the loftier vegetables were so entirely distinct from any that are now known to exist in European countries, that we seek in vain for anything at all analogous without the tropics. The forests of Clathariæ and Endogenitæ (the plants of which, like some of the arborescent ferns, probably attained a height of thirty or forty feet.) must have borne a much greater resemblance to those tropical regions than to any that now occur in temperate climates. That the soil was of a sandy nature on the hills and less elevated parts of the country, and argillaceous in the plains and marshes,

may be inferred from the vegetable remains, and from the nature of the substances in which they are inclosed. Sand and clay everywhere prevail in the Hastings strata; nor is it unworthy of remark that the recent vegetables to which the fossil plants bear the greatest analogy affect soils of this description. If we attempt to portray the animals of the ancient country, our description will possess more of the character of a romance than of a legitimate deduction from established facts. The gigantic Megalosaurus and yet more gigantic Iguanodon, to which the groves of palms and arborescent ferns would be mere beds of reeds, must have been of such prodigious magnitude that the existing animal creation presents us with no fit objects of comparison. Imagine an animal of the lizard tribe, three or four times as large as the largest crocodile, having jaws, with teeth equal in size to the incisors of the rhinoceros, and crested with horns. Such a creature must have been the Iguanodon!"

We know not, indeed, when this state of things existed; we only see the remains of animals and vegetables, which in the beauty of their figure, the exquisite fabric of their organization, have received the impress of Infinite Wisdom, and in tracing them

we are like the traveller who wanders amidst the ruins of a city of ancient time, of which the page of history is silcnt. As he carefully examines the remains of palaces and tombs, and meets with coins and medals, which tell him of mighty empires prostrate and forgotten, he doubts not their former existence, although all around him is ruin and desolation; nor have we greater cause to doubt the equally well-marked "Medals of Creation," for are they not impressed with the equally well-marked image of the omnipotent power of their Creator? I presume not to inquire how many ages have clapsed since our globe has undergone these changes; this I leave in abler hands, the master-minds now engaged in these researches. It is sufficient for my purpose that these changes have taken place, and that the result has been the formation of a soil highly conducive to the perfect health of man, and where he may fix his habitation, without a dread of falling a victim to many of those contagious and epidemic disorders, to which he is obnoxious on a less salubrious soil.

The soil is composed of immense beds of sand, and sand-rock with calciferous grit, and fuller's earth, slaty clay and shale with iron ore. All

these are of such a character as must materially influence the surrounding atmosphere. The abundant radiation of heat from the light colour of the surface, and the thirsty nature of the soil absorbing all humidity, and at the same time allowing of but little evaporation, prevent those dense and cold landfogs peculiar to all districts having a clayey subsoil, where great evaporation takes place from the surface; and although Hastings, like every other place, situated on the coast, is occasionally enveloped in a sea-fog, which sometimes suddenly arises in the finest days of summer, yet these mists, however formed, deposit no dew, and possess none of the chilling effects of those which are derived from other sources. None, indeed, but those who have resided where the character of the soil keeps the surface continually moist, and who have, at the same time, suffered from some of those maladies which have their origin or are aggravated from a cold and humid atmosphere, can fully appreciate the advantage which Hastings owes to its geological formation alone. Rarely is it necessary for the invalid, however delicate, to be confined to the house for any length of time, even in the most stormy weather.

On the slightest cessation of rain, the surface

becomes immediately dry; and in the summer season, a few hours after a fall of rain, those who are most susceptible of cold may ramble over the neighbouring downs and sit down with impunity upon the dry and spongy turf. Nor is there perhaps a more enchanting scene, or one more calculated to exhilarate the mind, and invigorate the frame enervated by disease, than that which presents itself from these lofty cliffs and undulating downs. Inland, as far as the eye can reach, a beautiful and highly-cultivated country exhibits its hills and dales, its fields and woods. Seaward, the boundless deep rolls beneath, where barks of every kind, from the little pleasure punt to the stately Indiaman, hold their devious course. What a field for imagination! How many joyous and sorrowful hearts pass in review! Some leaving the home of their childhood, and leaving it for ever; while others, returning after long absence, are rejoicing in bright dreams of the future,—dreams too bright for sober reality to equal.

But to the invalid, naturally listless as he is, it is of especial advantage that, while he enjoys these invigorating breezes, the mind should be cheerfully impressed with surrounding objects; and the art of feeling interested in all that passes before the eye is one of no little importance in repelling disease. As the rambler rests himself, perhaps near the edge of some precipitous eliff, where

"the murmuring surge
That on the unnumber'd idle pebbles chafes,
Cannot be heard so high,"

he may watch the poor shrimp-boy plying his daily avocation, or the sturdy fisherman preparing for his arduous labours.

The dryness of the soil, and the absence of humidity in the atmosphere, are not the only advantages of this particular formation. It is well known that where a soil is very retentive, and particularly where the vegetation is luxuriant, the aqueous vapour constantly arising is loaded with the remains of dead animal and vegetable matter, highly injurious to health, and the exciting cause of many of the most fatal diseases to which the human body is liable. This malaria, as it is called, has depopulated some of the fairest portions of the habitable globe. In the classic soil of Italy, for example, with its bright and beauteous sky, whole districts—rich in the production of all that would administer to the wants of man—even to

the very gates of the Eternal City itself, exhale a malaria so pestilential as generally to prove fatal to all who are exposed to it.

Hastings, on the contrary,—the soil admitting of so little evaporation, and the vegetation in the immediate vicinity not being too luxuriant,—is entirely free from all causes of malaria; and, in a future chapter, I shall be able to show that the inhabitants enjoy almost a complete immunity from all such diseases as derive their origin from this cause. In reference to this locality, therefore, the elegant language of Lord Bacon may be strictly applied: "The goodness of the air is better known by experience than by signs; we hold that air to be best when the land is level and plain, and that lieth open on all sides, so that the soil be dry, and yet not barren or sandy, which puts forth wild thyme, and eyebright, and a kind of marjoram, and here and there stalks of calamint, which is not altogether void of wood, but conveniently set with some trees for shade, where the sweetbriar rose smelleth something musky and aromatically; if there be rivers we suppose them more hurtful than good, unless they be small, clear, and gravelly."

CHAPTER II.

METEOROLOGICAL TABLES-MINERAL WATERS.

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Much as this part of the southern coast owes to the character of its soil, Hastings and St. Leonard's derive additional advantages from their sheltered situation, "bounded on the north and east by some of the most elevated land in the county of Sussex, and probably the most so on the southern coast of England, the hill of Fairlight, which is about a mile and a half distant, being 541 feet in height. On the west the town of Hastings is screened by a continuous line of hill, rising to an elevation of from 200 to 300 feet, and on the south the British Channel presents a wide and extensive bay, stretching from

Dungeness on the east to Beachy-head on the west. This coast abounds in undulating elevations, which for some miles in extent are bordered by perpendicular rocky cliffs, intersected by those numerous valleys which characterize the southern shores."*

The old part of the town of Hastings, situated in one of these valleys, is surrounded on all sides, except towards the sea, by elevated hills, which, in many places, rise very abruptly; this valley has not inaptly been compared to a bowl with one side broken out; and, had advantage been taken of this natural amphitheatre to arrange the houses in a succession of terraces, the town would have presented, instead of a confused mass of buildings, an appearance both elegant and commanding. This part of the town being completely sheltered on every side but the south, the temperature is neither so variable, nor does the thermometer sink so low during the night as in other parts of Hastings and St. Leonard's which are more exposed; in order to ascertain this difference, two thermometers, having the same aspect, the one in High street the other in Wellington square, were observed twice a day during the months of December and January of the last winter, and the following table will exhibit their respective variations:—

^{*} Comparative Influence of the Southern Coast, p. 15.

TABLE I.

DECEMBER 1841.				JANUARY 1842.					
Date.	Iligh Street.		Wellington Square.		Date.	High Street.		Wellington Square.	
	8 A.M.	10 р.м.	8 A.M.	10 P.M.		8 A.M.	10 р.м.	8 а.м.	10 р.м.
1	51	50	51	50		38	34	3.5	32
2	50	49	50	51	$\frac{1}{2}$	36	34	33	34
3	52	48	52	49	3	32	28	31	27
4	48	46	47	45	4	28	30	27	26
5	42	44	41	43	5	30	32	28	28
6	50	42	47	41	6	26	30	29	29
7	40	44	38	49	7	28	28	29	28
8	50	40	50	43	8	28	26	23	27
9	38	46	37	41	9	26	26	23	23
10	50	40	49	40	10	28	30	25	27
]]	38	38	36	37	11	34	32	32	31
12	48	50	46	50	12	34	32	30	35
13	50	46	49	44	13	34	36	32	30
14	42	40	40	34	14	40	32	41	31
15	46	46	43	47	15	30	32	29	29
16	46	46	42	37	16	40	34	39	37
17	38	32	32	25	17	36	34	31	34
18	30	30 •	28	33	18	32	26	32	28
19	34	36	32	34	19	28	32	26	29
20	34	32	31	34	20	34	34	30	32
21	32	36	32	38	2]	34	34	31	32
22	36	40	30	34	22	34	3 छ	33	39
23	36	46	35	43	23	30	26	30	29
24	46	44	35	38	24	26	38	24	37
25	46	36	44	35	25	36	32	37	33
26	32	30	31	31	26	40	38	40	40
27	32	34	32	32	27	38	38	35	35
28	34	44	35	38	28	36	34	35	34
29	40	42	38	38	29	34	36	30	36
30	44	38	37	38	30	34	36	32	37
31	34	36	35	34	31	38	44	36	43
Total	1289	1271	1225	1236	Total	1022	1008	968	992
Mean					 Mean				
daily	41.58	41.	39.51	39.87	daily	32.64	32.51	22.00	9.2
Гетре-	11 00	41	16.80	28.81	Tempe-	92.04	32.91	31.22	32.
rature.				1	rature.				

The temperature of the High street will also represent most of those parts of the town which are immediately sheltered by the cliff, while that of Wellington square will very nearly represent that of the southern range of buildings at St. Leonard's, the White Rock, and Verulam place; from the latter place I have been kindly favoured with two years' thermometrical observations as a means of comparison.

Upon referring to the above table it will be seen that the mean difference of temperature between Wellington square and the High street, at eight o'clock in the morning, is two degrees during the month of December, while at ten o'clock at night it is only rather more than one degree; in the month of January the mean difference still continues in the morning nearly 1½ degrees in favour of the High street, and half a degree in the evening. We can only account for the extraordinary difference of temperature in two parts at so short a distance from each other, from the air in the lower parts of the valley, in which the old part of the town is built, remaining nearly quiescent, being very little influenced by those winds which are usually prevalent at this season of the year. The cold northern blast sweeping along

the higher lands with which the town is surrounded, continues its onward course, and descends not into the sheltered valley. Another cause which doubtless contributes to this result is the fact, well ascertained, that the artificial heat which is generated in every densely-populated place, raises the temperature above that of the adjacent country. In most towns this artificial increase of temperature is maintained only during the day, but the quiescent state of the atmosphere in this sheltered situation favours its continuance during the whole night, and consequently it is in the morning that we perceive the greatest variation, and that at an hour too early for the sun, at this season of the year, to have any influence, and also before the artificial heat which is produced during the day begins to manifest itself.

A very slight elevation, even in the same valley, is sufficient to produce a great difference in respect to the equality of the temperature. The following table contains the monthly range and mean of the thermometer, for the year 1841, taken respectively in the High street and in the Croft; the difference of elevation of the two thermometers is about seventy feet.

TABLE II.

Comparative Annual and Monthly Mean and Range of the Register Thermometer, taken in the High Street and Croft, for the Year 1841.

	ні	GH STRI	EET.	CROFT.			
	Mean Tempera- ture.		Monthly	Mean T	Monthly		
	Lowest of the Night.	Highest of the Day.	Range.	Lowest of the Night.	Highest of the Day.	Range.	
January February	30 33	38 37	17 to 46 22 to 46	30 31	39 39	17 to 51 16 to 49	
March	41 42	48 51	35 to 54 34 to 67	39 40	52 56	30 to 58 30 to 74	
May June	51 53	62 63	45 to 76 46 to 68	50 49	68	41 to 81½ 40 to 78	
July August	57	63 66	50 to 69½ 50 to 70	52 55	69 70 68	44 to 75 45 to 75	
September October	56 47 42	65 55 49	47 to 76 40 to 63 30 to 55	54 45 40	57 49	42 to 77 33 to 68 24 to 57	
November December	38	46	30 to 54	37	45	27 to 54	

Note.—To save the complexity of a great number of figures, the decimals are omitted when below 5, when above this number a whole figure is added.

By the above table it will be found that there is a mean difference of temperature in the winter and spring months, during the night, of $l_{\frac{1}{2}}$ degree in favour of the High street.

At the commencement of the year 1841, I deduced, from the observations made upon the register thermometer and rain gauge, which are kept for the Hastings Literary Institution, a series of calculations for $3\frac{1}{2}$ years, terminating December 1840. The tables resulting from these calculations were made up at the request of Sir James Clark, and were published in the third edition of his valuable work on Climate, in order more fully to illustrate the climate of Hastings. I have made use of these calculations, with the further addition of another year's observations. At the same time I have introduced a table showing the range of the barometer during the year 1841:

TABLE III.

Mean Temperature for each Month, each Season, and Mean difference of Tempera-	Mean height and range of
for the whole Year, deduced from 4½ Years' Thermometrical Observations of the Hastings Literary Institution.	the Barometer for the whole Year and for each Month.
Mean Annual Temp. 51° Difference of Mean Mean Temperature of Winter 40.08 Spring 43.72 Do. of the warmest Summer 58.33 and coldest months 24.77 Autumn 52.64 Do. of successive Mean Temperature of January 36.74 January 36.74 Do. of successive February 38.27 March 40.44 April 44.55 May 52.77 June 58.77 June 58.77 July 60.24 Autumn and Winter 12.56 July 60.24 Autumn and Winter 12.56 Do. of successive months, January and February 1.53 Feb. and March 2.17 March and April 4.11 April and May 8.82 May and June 6 June and July 1.47 July and August 1.27 August and Sept. 45 September and Oct. 7.58 October and Nov. 8.63 November and Dec. 3.9 December and Jan. 4.21	One Observation daily, about 9 A.M. Mean height for the Year 1841 29 807 inches Range for whole Highst Lowest Year of 1841 30 46 28 9 8 9 11 August 30 31 28 93 April 30 46 29 33 April 30 30 29 40 May 30 31 29 29 11 March 30 30 31 29 29 11 May 30 30 31 29 29 40 May 30 30 29 29 50 July 30 30 12 29 29 40 September 30 11 29 28 October 30 11 29 28 November 30 41 29 02 29 04 December 30 20 29 04

The following tables, exhibiting a comparative view of the mean temperature of the winter and spring months in the various climates of Britain which are resorted to by invalids, and the comparative number of rainy days, with the quantities of rain calculated by inches, which falls at the same places, were also taken from Sir James Clark's work on Climate, but with the addition of another year's observations for Hastings:

TABLE IV.

Comparative Temperature of different places taken by the Register Thermometer.

Places.	Mean Temp. of Winter.	Mean Temp. of Spring.	of both	
London	39.12	48.76	43.94	Nineteen Years.
Hastings	40.66	46:10	43.38	For winter five years, including severe winters of 1837-38, and 1840-41; for spring 4 years.
Undercliff	42.52	48.38	45.67	For winter six years, including severe winter 1829-30; for spring, 2 years.
Torquay	39.83	50.83	45.33	Two years, including severe winter 1829-30.
Penzance	44.03	44*93	46.83	Ten Years.

TABLE V.

Comparative Quantities of Rain, and Number of Rainy Days in different places.

	Mean quan- tities of Rain.		Number of Rainy Days				
Places.	Winter.	Spring.	For the Year,	Winter.	Spring.	Number of Years' Observations from which the means are taken.	
London	5.85	4.80	178	48.0	43.0	Twenty years.	
Hastings	7.44	3.86	158	37.1	26.6	For Winter and Spring, 4 years, including the rainy seasons, 1838-9,1839-40, and 1840-41.	
Underclift	6.17	3.83	144	43.0	19:5	The Number of rainy days is deduced from 2 years' observations, the quantities of rain from 3 years', including the seasons 1838-9, 1839-40.	
Penzance	12.64	9.35	155	50.7	40.6	Twelve years.	

In reference to the above tables, it must be borne in mind that the observations from which the number of rainy days were deduced for Undercliff, only extend to two years, a period of time far too short to establish a mean, particularly as we are not informed whether more or less than the usual quantities of rain fell during those years. As far as the observations for Hastings extend, the smallest quantity of rain which can be measured by the rain gauge is noticed, and the finest spring day, if attended with the most trifling shower, is put down as a day on which rain fell.

Mr. S. Bevill, of the Custom-house of Hastings, has kept a journal of the weather of Hastings for many years, not as regular meteorological observations, but for nautical purposes, and the following table exhibits a mean of five years of the most prevalent winds and kinds of weather for every month and every season of the year. The winds are named according to the nearest cardinal point from which they blow:

TABLE VI.

The following Table comprises the mean prevailing Winds and Weather for every month in the year, for the last five years, from the Nautical Journal of Mr. S. Bevill of the Custom-House, Hastings.

MONTHS.	PRE	VAILA	NG W	INDS.	KIND OF WEATHER.				
	No. of days Northerly.	No. of days Easterly.	No. of days Southerly.	No. of days Westerly.	No. of days in which the weather is fine.	No. days on which rain, hail, snow or sleet falls.	Foggy days.		
January February March April May June July August September October November December	9 4 6 7 7 3 2 3 8 5 9	6 9 10 9 8 5 4 5 6 5 5 4	6 11 7 8 8 8 7 9 8 7 13 11	10 5 8 6 8 14 18 14 13 10 7	14 15 21 21 21 19 18 21 17 18 13	17 13 10 9 10 11 13 10 13 13 17 14	2 2 1 2 1 1 1 1 1 1 1 1		
Mean of Spring	20	27	23	22	63	29	4		
Mean of Summer	8	14	24	46	58	34	3		
Mean of Autumn	16	16	28	30	48	43	3		
Mean of Winter	22	19	28	22	46	44	6		
Annual Mean	66	76	103	120	215	150	16		

The frequent prevalence of southerly and southwesterly winds during the winter and spring months, materially tends to regulate the temperature, coming, as those winds do, from more genial climes. "Winds," says Dr. Prout, "are of the utmost economy in Nature, as tending to equalize temperature."* And Dr. Kidd also remarks, "Nor are the benefits less considerable which arise from agitation of the element under consideration, especially when aided by those alterations in its volume which follow upon every change of temperature; for from these combined causes arise those currents of air which administer, in various modes, as well to the comforts of man as to his most important wants; these currents remove or prevent the accumulation of local impurities, and at the same time facilitate that intercourse between different nations in which the welfare of the world is ultimately concerned."+

Doubtless the southerly winds derive some of their increase of temperature from passing over so large an extent of water, as the temperature of this latter element, during the winter months in these latitudes, is considerably above that of the atmosphere. The author of the Curative Influence of the Southern Coast attributes the mildness of the climate of

^{*} Bridgewater Treatise, p. 267.

[†] Adaptation of External Nature to the Physical Condition of Man, pp. 133 and 152.

Hastings, in part, to another cause: he says, "The increased temperature of our southern and western coasts has also been thought to be influenced by the agency of the stream of warm water which flows towards Europe from the gulf of Mexico, occasioned by a material difference between the level of the gulf and that of the Atlantic Ocean. An accumulation of heat from this source was particularly observed quite across the Atlantic, as far as the European shores, by Dr. Franklin, in his passage from the United States to France, in November 1776. He published a chart of this remarkable current, whose waters were found to be from six to eleven degrees warmer than the ocean through which they flowed, their superior temperature being derived from that of the climate of the Mexican gulf, whither the waters are pent up by the trade-winds, which force them westerly, until they become actually more elevated by several yards than the waters of the Pacific Ocean. A similar extension of this stream has since been noticed by Major Rennell; but although rather dependent on fortuitous circumstances than causes constantly operating with equal power, (as has been shown by him and Captain Sabine,) there is nevertheless, I think, quite sufficient evidence for accord-

ing with the idea of Professor Playfair, that the elevations in temperature which are not unfrequently experienced by us during the prevalence of south-west winds, may partly arise from the presence of air heated by passing over these eurrents."* But, independent of any increase of heat which air may acquire from passing over a large extent of ocean, it certainly derives great advantage by being entirely freed from those noxious effluvia which air imbibes in passing over an extensive tract of eountry. "The wind," says Mayo, "which blows over the ocean, imbibes an infinitely minute portion of this element, and certainly aequires a tonie and strengthening character by this means." † And although these winds, loaded as they are with saline partieles, may be injurious to vegetation, they are very beneficial to health, and partieularly to those invalids who are suffering from affection of the chest; this faet was well known at a very early period; in the time of Celsus it was the practice for consumptive patients to be sent to Alexandria, † a

^{*} Curative Influence of Southern Coast, p. 13.

⁺ Philosophy of Living.

[‡] Quod se mali plus est, et vera phthisis est, inter initia, protinus occurrere necessarium est: neque enim facile is morbus, cum inveteraverit evincitur. Opus est, si vires patiuntur, longa navigatione, cœli

city which is much exposed to winds from the sea, and where, according to the description of modern travellers, the air is so loaded with saline particles that the very walls become encrusted with saline matter, and the most highly-polished steel instruments soon become rusty. Dr. Sankey, when speaking of Malta as a residence for phthisical invalids ascribes the suitability of the island for such patients to the fact that "the island is open to every wind that blows." And Dr. Ingenhouz, who engaged in a series of experiments to prove the salubrious and beneficial effect of sea air in certain diseases, concludes his paper with these words: "It appears, from these experiments, that the air at sea, and close to it is in general purer and fitter for animal life than the air on the land, though it seems to be subject to the same inconstancy in its degree of purity with that of the land, so that we may now, with more confidence, send our patients labouring under consumptive disorders to the sea, or at least to places situated close to the sea, which have no marshes in their neighbour-Hastings, therefore, possesses the various hood."

mutatione sic ut densius quam id est, ex quo discedit æger petatur ideoque optissime Alexandriam ex Italia itur.

(A. Corn. Celsi, de Medicina, lib. iii. s. xxii.)

advantages of an absorbent soil, sheltered situation, an equable elimate, and sea air.

But in addition to these advantages, which make Hastings so suitable for the residence of delicate invalids, it possesses another which, as far as its application to the cure of diseases is concerned, has hitherto been entirely overlooked; and that is its mineral waters: this is the more remarkable, since Tunbridge Wells has been so deservedly celebrated for so long a period for its chalybeates, and yet waters possessing precisely the same chemical and medicinal properties, and much more powerful, are found in great abundance at or near Hastings. Dr. Harwood, indeed, brother to the present estimable physician of St. Leonard's, at the close of his volume, published in 1828, on the Curative Influence of the Southern Coast, speaking on this subject, says, "It is with much regret I conclude the present volume without yet being enabled to offer the reader the result of a series of experiments, undertaken with a view to determine the proportions of mineral ingredients, which are contained in the native chalybeate waters of the Hastings coast. These chalybeates, as I have before had oceasion to remark, possess properties, which in many complaints connected with diminished energy of the animal powers, are of the greatest importance. From the very rare combination therefore, at Hastings, of these advantages, with those which are peculiar to the coast, it is my intention to take the earliest opportunity of submitting to the public, with the result of their analysis, some observations on the application of mineral waters of this class to those particular states of disease in which, I conceive, the greatest benefits may be reasonably expected to arise from their employment."

The above remarks show that the author of the Curative Influence of the Southern Coast was fully alive to the many advantages which would accrue to a large class of patients, who resort to Hastings, from the acquisition of such an excellent remedy as a powerful chalybeate water; and, doubtless, he was only prevented from carrying his judicious intentions into effect, from his removal soon after to a distant part of the country.

In the neighbourhood of Hastings there are various springs strongly impregnated with iron, some of them more so than others, and in all the iron exists in the form most suitable as a chalybeate, that of the protoxide, and is kept in solution by

carbonic acid gas. The spring I have selected for the subject of my analysis is in the grounds of Frederick North, Esq., whose politeness and attention in forwarding my experiments I beg to aeknowledge. The water is evidently derived from the ferruginous sand lying on a bed of elay, the greater quantity bubbles up from the bottom of a small well, into which some surface water drains, but a small quantity issues from an iron pipe placed in such a manner as to allow of its being collected without difficulty. It has a decided chalybeate taste, and as it issues from the spring is at the temperature of 51°. Its specific gravity is 1.0009.

The contents of an imperial gallon are:

Protoxide of Iron		:	٠	4.303 grains
Carbonate of Lime .				•21
Chloride of Calcium	•			4.978
Sulphate of Lime .		,		1.449
,, of Soda .				3.017
", of Magnesia				4.085
Carbonate of Magnesia				4.640
Silica		,		*385
Solid contents in an impe	-	23.067		

Number of cubic inches of gas in the imperial gallon:

Carbonic acid	gas		•			18.53 inches
Oxygen		٠			•	1:38
Azotic gas				٠		5.54

The weight of 18.53 of carbonic acid gas is

8.8 grains, and 4.303 grains of protoxide of iron; to keep it in solution would require 5.287 grains, while 4.64 grains of carbonate of magnesia would require to keep it in solution 2.243 grains, and the carbonate of lime to keep it in solution would require ·91 grains. Thus the whole carbonic acid to keep these salts in solution is 8.68 grains, or nearly the whole quantity contained in the water: hence its exposure for a very short time to the atmosphere, so as to allow of the escape of the carbonic acid gas is sufficient to precipitate a portion of the iron. order that the value of the Hastings chalybeate may be more fully appreciated, I have introduced the analysis, according to Sir Charles Scudamore, of that of Tunbridge Wells, so that a comparison may at once be made between the constituents of each.

TUNBRIDGE WELLS CHALYBEATE.

Solid contents in an imperial gallon:

Protoxide of Iron							2.748 grains
Carbonate of Lime							•324
Chloride of Calcium				٠		•	1.848
Sulphate of Soda					•		1.768
Chloride of Sodium						•	1.2
,, of Magnesium	m				٠		·348
Manganese, Silica, &c	C.	•		•		•	·528
Solid contents of the	imp	eria	l ga	llon		_	9.68
Carbonic acid gas				•			9.66 cubic in.
Oxygen .					٠		•60
Azotic gas .				•			5.7

The quantity of protoxide of iron, which is the only active ingredient in each, is nearly twice as much in the Hastings chalybeate as that of Tunbridge Wells; and while the common dose of half a wine pint of the former contains 0.22 grains of the protoxide of iron, the same quantity of the latter contains only 0.14 grains.

Chalybeate waters have long been considered the best means of introducing steel into the system in that numerous class of diseases in which the remedy is so truly valuable; their effects are decidedly tonic, and a course of these waters generally renders all the functions of the body more active, particularly those of digestion, circulation, and absorption; hence they are indicated whenever there is great debility of the system, accompanied with a languid pulse and want of the natural secretions; they generally produce a feeling of warmth upon the surface of the body, and impart a sense of energy and activity to the patient, which is at once perceptible to the feelings. Before commencing and even during their use it is absolutely necessary to keep the bowels in a healthy state of action, or they are apt to produce headach.* The usual dose for an

^{*} All chalybeates have a tendency to render the stools of those who take them black, and thus occasion alarm, unless the patient beforehand is warned of the circumstance.

adult is the contents of a tumbler containing half a wine pint, to be taken twice or thrice daily; the water should always be drank from the spring when practicable, when otherwise it ought to be put into bottles and kept well corked until used.

Amongst the numerous diseases in which chalybeates may be advantageously employed, I will only refer to two or three in which they are especially useful.

That form of indigestion called atonic dyspepsia, and which depends upon a loss of tone in the organs of nutrition, will be greatly benefited by a course of these waters. So likewise in that peculiar derangement of these organs which is the precursor of tuberculous consumption, much may be expected from its use; indeed this remedy, if judiciously employed, is likely to be of essential service in these cases. An eminent writer says, "Chalybeates have an excellent effect in some young persons of a tuberculous constitution; in those who have a languid circulation, a soft relaxed state of muscle, and a pale bloodless appearance, they are superior, I believe, to every other remedy; but the indiscriminate exhibition of them is productive of much mischief. Before benefit can be derived from chalybeates, the

digestive organs must be free from irritation; otherwise, however great may be the debility, they will generally do harm."* In hysteria, hypochondriasis, and that class of diseases dependent upon loss of tone of the nervous system, and the general debility of convalescents, great benefit may be expected to be derived from a course of this water. And in diseases of the uterine system, particularly those occurring in early life, and characterized by deficient or suppressed secretions, the most decided advantage may be anticipated from their use in several instances in which I have employed this remedy, the patients taking it have experienced the most decided improvement.

^{*} Dr. Clark, on Consumption and Scrofula.

CHAPTER III.

MEDICAL STATISTICS OF HASTINGS.

The salubrity of a climate is best known from its medical statistics.—
Twelve years' practice of the Hastings Dispensary, and four years' registration of deaths from all causes for the Borough of Hastings.—Comparative rarity of contagious disorders.—Typhus, continued, and intermittent fevers.—Diseases of Fishermen.—Rheumatism.—Longevity.—Climacteric disease.

In the former chapters the peculiar salubrity of Hastings has been ascribed to the geological character of its strata, and to the many advantages arising from its sheltered situation and equable temperature. But, however specious such opinions may appear, and whatever care may have been exercised to avoid error, unless these opinions are borne out by experience, they must be rejected. In almost all researches in medical science, observation and experiment are the only certain guide. That able pathologist, Louis, of Paris, states that nearly every previous theory which he had formed upon

the statistics of diseases, or the symptoms of disease, he found when put to this test to be incorrect. Unless therefore the statistics of disease and death amongst the inhabitants of Hastings themselves will prove the superiority of its elimate, every argument adduced in its favour can be of no avail.

I furnished a report, which was published in the Medical Gazette of the 15th of April last, and in the Lancet of the 7th of May, of twelve years' practice of the Hastings Dispensary, comprising nearly eight thousand cases of disease, which had received medical and surgical treatment at this institution, since its first establishment. I had recourse also to calculations deduced from the registrar's book of deaths from all causes, which have occurred in the borough of Hastings during the four years the registration act has been in operation. From these united sources I was able to form a decided opinion as to the statisties of disease and death, and the prevalence or unfrequency of various diseases; and to make a comparison between the salubrity of Hastings and other places, I have introduced a digest of that report for the advantage of the general reader.

Total number of eases of disease named in the Dispensary books for twelve years, 7711.

Total number of deaths registered in the Borough of Hastings from all causes, for four years, 865.

Epidemic and Contagious Discases.	Dispensary patients for 12 years.	Deaths registered for four years under the Registration Act.
Smallpox	. 102	21
Measles, scarlatina, influenza, diarrhœa, dy-		
sentery	674	94
Typhus fever	. 7	Ö
Continued fever	. 434	2
Intermittent fever	. 183	1
Hooping-cough, sore throat, erysipelas, &c	. 310	63
Sporadic Diseases.		
Diseases of nervous system, such as convulsions,	276	1.59
apoplexia, hysteria, &c	}	100
Diseases of the external senses	. 247	
Diseases of organs of respiration—Cough .	. 403	
Bronchitis	. 170	6
Asthma	. 53	12
Consumption	. 162	
Deaths from this cause amongst the inha-	`	
bitants 91	\	161
Ditto, amongst strangers 70)	
Other diseases of organs of respiration		64
Total number of deaths in four years from chest		
affections	,	
Diseases of organs of circulation	. 53	2
Diseases of organs of digestion	. 1512	78
Diseases of liver and spleen	. 80	4
kidneys, bladder, and neighbouring		
organs	440	11
organs of locomotion and integumentary system	1441	7
of uncertain seat	. 924	93
of old age and catarrhus senilis .	٠	81
	2211	007
	7711	865

From the foregoing table it is evident that Hastings is almost exempt from those maladies which are generally attributed to miasmatic influence, and that the diseases of the respiratory organs are much less frequent than in most other places in Britain, or even the south of Europe.* This is particularly the case with consumption—that scourge of the human family, whose insidious and

* In the British and Foreign Medical Review for April, 1842, p. 434, the following comparison is made between Great Britain and the island of Malta.—The population of Great Britain at Midsummer, 1838, must have been, according to the late census, about 15,196,225, of whom it is shown by the registrar-general's returns for that year, that 88,517 died of diseases of the lungs, (excluding hydrothorax, which is not inserted under that head in the Maltese returns;) being in the ratio of 5 mer thousand annually, while the returns for Matta show, that on the average of the last twenty years, the mortality by the same description of diseases was $5\frac{1}{16}$ per thousand annually, a very close approximation it must be admitted, the more especially as 1838 was a year in which the mortality from diseases of the lungs was much increased in this country, owing to the very general prevalence of influenza. Applying the same relative calculation to the borough of Hastings with the census of 1841, which was taken at the time when the town was particularly free from strangers, the population was found to be 11,786; during the four previous years the total number of deaths from affections of the chest was 254, which gives $5\frac{4}{10}$ for every 1000 of the population; at the same time it must be remembered that a great number of those who die from these diseases are strangers and come from a distance, if indeed we only deduct the seventy strangers who died from tubercular consumption, this would reduce the numbers to the proportion of $3\frac{9}{10}$ for every 1000, an average far less than that of the boasted island of Malta, to which the above reasoning will not apply, as it has only very lately become the resort of invalids. unrelenting march overtakes and destroys a large portion of all that is fair and beautiful, all that is intellectual and gifted, noble and aspiring, among our race, consigning them to the darksome grave, frequently at a period of life when their most lofty thoughts, their most ardent hopes had opened to their imaginations scenes of future glory and usefulness.

Only seven cases of typhus fever have occurred in the practice of the Dispensary during the twelve years, and only six cases of death are registered as resulting from this cause for the whole of Hastings. Whether these six deaths were caused by idiopathic typhus, or whether the patients were suffering from some other diseases which had reduced their strength, and thus prepared the way for the supervention of typhoid symptoms, I am unable to learn. I should however think the latter supposition to be the more probable, considering the very few cases that have occurred in the dispensary practice, more particularly as those who apply to this charity for relief are such as cannot afford to pay for medical advice, and therefore to the class of persons amongst whom typhus is most frequently prevalent. During the past year, although 1250 persons were admitted

patients to this institution, not a single case of this fever was amongst them. When the above numbers are contrasted with the prevalence of this disease in other places, the salubrity of the air of Hastings is strikingly exhibited. According to the report of the registrar-general, the proportion of deaths arising from typhus fever in the whole kingdom, is about one for every sixteen of those who die from other causes; the mortality at Hastings has been only six cases out of 865 deaths, or only in the proportion of one for every 144, so that this fatal and dreadful malady has been nine times less frequent at Hastings than the usual average in other parts of England. It will be seen by the table that upwards of 400 eases of simple continued fever have been under medical treatment at the dispensary during twelve years. One of the most fertile sources in originating and propagating this disease was imperfect drainage. Formerly an uneovered brook, ealled the "Bourne," acted as the common sewer of a great part of the town, and although eare was taken to wash out this brook frequently, by means of a stream of water let on by a flood-gate from a reservoir reserved for the purpose, yet the emanations arising from partially decomposed animal and vegetable matter, in a

densely-populated neighbourhood, were anything but conducive to the health of the inhabitants. The "Bourne" was covered over in the year 1834, since which period this disease has gradually decreased, and almost entirely disappeared; in the year 1840 only thirteen cases, and during the last year only three cases of this disease occurred in the dispensary practice.

Upwards of 150 cases of ague have also been under treatment at the dispensary since its establishment, and although a number of these cases came from the neighbouring villages, several of which are situated near marshy districts, where ague is prevalent, yet many of them occurred amongst the inhabitants of the town; and doubtless the cause just alleged for continued fever may be regarded also as the principal source of this disease: this is proved by the corresponding gradual diminution in the number of cases. During the last year, even with a much greater number of patients, only seven cases of ague were admitted. Another proof, if another were wanting, to show the peculiar salubrity of Hastings, and its comparative immunity from diseases of a contagious character, may be found in the fact of its entire exemption from the visitation

of that frightful and fatal scourge, Asiatie eholera, at a time when its devastating progress was more particularly marked in all seaport and fishing towns. The poverty of a very large part of the population of Hastings, their crowded dwellings and poor diet of fish, upon which they principally subsist, are eircumstances which especially rendered its inhabitants liable to such a visitation; and fishermen, although a hardy race, are more liable to disease than many other classes of the community. From a statistical memoir upon the influence of various professions on the health and mortality of mechanies and artisans in the prime of life, founded on the tables of the institution for sick mechanies at Wurtsburg, in Germany, from 1786 to 1831, a memoir drawn up by Dr. C. H. Fuchs, professor of medieine, and published at Berlin in 1835, the siekness and mortality among fishermen and sailors were found greater than among those engaged in many other trades. This is supposed to arise from the irregularities of their earnings, not affording them at all times a proper supply of wholesome food, as well as from their continued exposure to cold, wet, and other aeeidents. From these combined causes rheumatism is a disease to which seafaring men are particularly liable, but this is not only less frequent at Hastings, but milder in its character than in most other places of a similar description. Not a single case of death has occurred from this cause for the four years during which the Registration Act has been in operation.

The proportion of deaths registered for old age appears to be very favorable to the longevity of the population of Hastings;* and this need excite no surprise when it is considered that the greater part of elderly persons, or those whose circulation is languid, and whose powers of life are enfeebled by anxiety or disease, sink during the winter and spring months from disorders of the mucous membranes, brought on by exposure to cold; and therefore the sheltered situation of Hastings, with its equable temperature, is peculiarly adapted as a residence for this class of invalids.

The observations of Sir James Clark upon this

^{*} At the neighbouring village of Bexhill, the population of which in the census of 1831 amounted to little more than 1,800, the following singular dinner party assembled on the 4th of June, 1819, to celebrate the eighty-first anniversary of George III. The party consisted of forty-six. Twenty-five were on an average eighty-one years of age, fifteen who waited on them were seventy-one. Six who rung a merry peal on the church bells during dinner were sixty-one.

subject are very appropriate: he states that, "From about the age of fifty to that of sixty, though not unfrequently at a much earlier period, either when the system is naturally weak, or the eauses of disease have been powerfully applied, the impaired condition of health now alluded to, usually supervenes.

"This disordered state of health has been termed the 'climacteric disease,' but it oceasionally occurs long before the period of life at which this change of the constitution is stated to occur naturally.

"The eauses which lead to this condition of the health are various: as for instance, an anxious and sedentary life; long-continued and close mental application, or irregular and intemperate habits of living; and oftener still, it is the combined influence of several of these causes. From whatever cause it originates, a change for one or two years to a milder climate will prove of the greatest benefit in restoring the invalid to his wonted health."*

The greater part of the invalids who resort to Hastings for change of air are those either affected or threatened with pulmonary eonsumption; but as this is a disease of more than common interest, I shall eonsider it in a separate ehapter.

^{*} Dr. Clark, on Consumption and Scrofula.

CHAPTER IV.

PULMONARY CONSUMPTION.

General knowledge of the disease important to the public.—Curability of the disease—Mr. Abernethy's opinion.—Climate as a curative agent. — Opinion of Sir James Clark.— Two examples.—Usual mortality throughout the world—in England—at Hastings.—Statistics not perfectly correct—Examples.—Condition of the poor.—Means of preventing the disease.—Consumption not entirely a disease of the lungs.—Attention to the predisposing cause necessary.—Is consumption contagious?

Pulmonary consumption is a disease which, in all ages, has received much attention from the physician. The insidious nature of its attack, the early age of many of its victims, the frequent disappointment of the hopes of friends; the melancholy fact that many of those who sink under this disorder in the bloom of life are among the most beautiful and talented of our species, invest it with a peculiar interest and importance. Its gradual approach, so

often unnoticed, has been well described by one of its victims:

"Oh thou most fatal of Pandora's train,
Consumption, silent cheater of the eye;
Thou com'st not robed in agonising pain,
Nor mark'st thy course with death's delusive dye,
But silent and unnoticed thou dost lie."*

It is of the utmost importance that not only the profession, but also the public at large, should have a correct knowledge of the character of this disease, so fatal and extensive, destroying as it does nearly a fourth part of the human race, and that all classes should be well acquainted with the causes which produce it; for only in proportion as the preventive and curative treatment is founded upon correct pathological and physiological principles will it be more or less successful.

Nor is this subject, at present, involved in so much obscurity as formerly.

The original and invaluable researches of Laennec, the minute and scientific inquiries of Carswell, with the laborious and extensive observations of Louis, have thrown great light upon the origin, progress, and termination of this disease.

^{*} Kirke White's Remains.

The matter of tubercle is secreted from the blood, and is of a pale yellow, or grayish colour. It is opaque and unorganized, it varies in its form according to the part in which it is deposited, and in its consistence and composition, as it is sooner or later examined. It is generally secreted in the mucous membranes of different organs, as the lungs, bowels, &c. When it is once deposited, it may remain perfectly unchanged for some time, although still increasing in quantity, until at length, either from the irritation which itself produces, or from some other cause, an inflammation is excited in the parts adjacent to a single tubercle, or, what is more common, the cellular tissue which surrounds a number of tubercles, may inflame at the same time; suppuration then takes place, and the tuberculous matter is softened and coughed up, leaving large or small cavities. These may again heal up, or they may go on increasing in size; and, if the latter is the case, other cavities form in the same manner, and other organs partake of the disease. The irritation produces hectic fever, whilst the constant and harassing cough, the copious expectoration, the excessive night perspirations, and colliquative diarrhœa wear out the patient, until death terminates the scene.

But the former may be the case: the tuberculous matter may become softened, be coughed up, and the cavity healed. Dissection of numerous cases, where death has resulted from other diseases, or from the same disease at a later period, has shown the healing of a cavity of this kind to be complete; a little puckering of the lung, and a little fibrous gristly, or chalky substance, not larger perhaps than a pin's head, marks the place where a former cavity existed.

Mr. Abernethy, when addressing his pupils, used to say, in his own pithy and peculiar language, "Can consumption be cured? Bless me, that is a question which a man who had lived in a dissecting room would laugh at. How many people do you examine who have lungs tubercular, which are otherwise sound. What is consumption?—it is (ulcerated) tubercle of the lungs; then, if those tubercles were healed, and the lungs otherwise sound, the patient would get better."

There is, however, one subject which demands the most thoughtful consideration, and the more so, as it is only of late years that it has received that attention from physicians which it so eminently deserves, and is still entirely overlooked, or not understood by the community at large. The subject to which I allude

is the great error of considering consumption as affecting only the lungs, while in truth it is a disease of the general system.

The lung disease would be sufficient, in a certain time, to destroy life, but this period is much accelerated by disease of a similar character, which is running its course in other organs. The pulmonary affection is only a part of that great constitutional disorder, which shows itself more conspicuously in the lungs.

If we, therefore, always bear in mind that tubercular consumption is not exclusively a pulmonary disease, but little surprise need be excited that no specific remedy has hitherto been discovered for the cure of a malady which, after it has made a certain progress, is altogether incurable.

Since the constitution is thus generally affected that no local remedy can be useful, except as a means of allaying irritation, unless at the same time such remedies are accompanied with judicious treatment for the improvement of the general health, the most that can be done in the advanced stage of the disease, is to smooth the passage to the grave; but, in its earlier stage, the combined testimony of all the professors of our art whose researches have been directed

to the subject, happily bear testimony that much may be done, not only to prevent the deposition of tubercles in persons so predisposed, but to excite absorption of tuberculous matter where it has already been deposited.

What, then, are the means best calculated to produce so desirable a result as the restoration to health of an invalid affected with tubercular disease? Doubtless amongst the foremost of these may be named, a removal to a mild and equable temperature, free from malarious influence: Sir James Clark observes, "Even when tubercles already exist in the lungs, then climate affords one of our most valuable resources, and one which promotes the salutary action of all other remedies."*

But while it is almost essential for such invalids to seek a suitable climate, it ought always to be borne in mind that such a change is not all that is required. The most that climate can do for these patients is to place them in a more favorable position for the employment of other remedies; an early and judicious change, without doubt, produces a most beneficial influence; the course of the disease is often

^{*} Dr. Clark on Pulmonary Consumption,

health. Dr. Renton, who has practised for many years in the island of Madeira, observes that of thirty-three cases of consumption, in an early stage of the disease, who were sent to that island, and came under his observation, twenty-four were apparently cured. Nor are such examples confined to the island of Madeira, for no medical man can long reside at Hastings without numerous cases coming under his own observation, where equal benefit is derived from the change. I extract the following case from my note-book as an example:

Mr. G., aged twenty-four years, of a consumptive habit of body, has suffered, during the last year, two several inflammatory attacks of the lungs, accompanied with spitting of blood. His medical attendants considered his case hopeless; he however rallied, but still suffered from a short, dry cough, difficulty of breathing, nocturnal perspirations, inability to exertion, and occasionally spitting of blood. On his chest being carefully explored there was great want of resonance under the left clavicle, the respiratory murmur scarcely audible. From these, in connexion with other symptoms, it was inferred that tubercles were deposited in the upper lobe of

the left lung. This conclusion is not a little corroborated by the observations of Louis of Paris, who examined, after death, two thousand eases, in which spitting of blood had been a symptom, and where he found a deposition of tubercles in the lungs. In the state above described, Mr. G. consulted an eminent physician in town, who recommended him to Hastings to my eare. From the day of his arrival a marked improvement took place in his general health; and by proper medical treatment, all his bad symptoms gradually left him; his appetite improved; he daily gained strength; and although his recovery was for a time somewhat retarded, from his having imprudently attempted to mount one of the hills, with a strong wind blowing in his face, an exertion which brought on a return of the spitting of blood, yet, being more cautious in future, he continued to improve in health and strength, until after a residence of several months, during which time he took daily exercise in the open air, he considered himself sufficiently well to return home; and upon again auscultating his chest, the tuberculous matter had apparently become entirely absorbed, leaving the lung in a healthy state. By careful attention to himself, he has not only had no return of the symptoms for a period of above twelve months, but appears to have lost all tendency to affections of the lungs.

The above is a remarkable case, and certainly exhibits a more than ordinary benefit from a very short change of residence to a more suitable climate. The following case I also extract from my note-book, because it shows the effects of a double removal:

E. T., a young man, a native of Hastings, of a consumptive habit of body, obtained a situation at Liverpool. After a short residence there he was attacked with an affection of the chest; he applied to a physician, who, finding that his symptoms became worse, and portended considerable danger, advised him to return to his native air, more particularly as the climate of Liverpool was unsuitable for his disease. On his arrival at Hastings he applied to me, and was then suffering from cough, great expectoration, difficulty of breathing, night perspirations, a quick pulse, with hectic fever in the afternoon. Upon examining his chest with the stethoscope, I found distinct pectoriloguy over the upper lobe of the right lung: under the clavicle on the left side, was great dulness of percussion, and the respiratory murmur inaudible; from which signs

there was reason to infer that a large cavity existed in the upper lobe of the right lung, and great deposit of tuberculous matter in the left. Bad as this case appeared, the change of climate soon produced a marked improvement; and at the end of about three months the patient thought himself able to return to Liverpool, being afraid of losing his situation. He did return, contrary to my opinion, but he had not been at Liverpool above a month before all his former symptoms reappeared.

After waiting some little time longer, and finding himself daily becoming worse, he came back to Hastings, and again placed himself under my care; but although, since his return, his symptoms are very much relieved, I fear the disease is now too far advanced for climate or anything else to be of service.

Although change of climate is so strongly recommended, still it must always be borne in mind that consumption finds its victims in every land, and among every people. The great object should be to select that climate where the disease is least apt to be excited in those predisposed to it; or such a climate as does not foster a predisposition in those who have it not hereditarily; or, lastly, such a cli-

mate as is most suitable for the recovery of those already affected with the malady. In the former chapters I have shown that Hastings possesses advantages of a high order as a residence of this kind, arising from the salubrity of its soil and its sheltered situation. I shall now show that the above conclusions are borne out by the medical statistics of Hastings, and that the average mortality of its inhabitants from pulmonary consumption, is considerably below the average of other places.

It is calculated that between a fifth and sixth part of the entire number of deaths in temperate climates arises from this cause. Dr. Shattuck, in the Vital Statistics of Boston, U. S., says, sufficient facts are known to show that from one fourth to one seventh of all the deaths in the northern and middle states of America, and perhaps of the whole world, are caused by consumption.

The annual returns of the registrar-general show that about a fifth part of the mortality of England is caused by this disease.

Sir James Clark considers that a sixth of the deaths in Britain is decidedly caused by pulmonary consumption.

Dr. C. J. B. Williams, in a clinical lecture lately

delivered to the medical students at University College Hospital, says, "I am convinced, from extensive observation and much reflection on this subject, that tuberculous disease of the lungs, in some degree or another, in one form or another, prevails among the more seriously sick in London and other large towns, in as great a proportion as among our own patients, I in 3.5. So far as our own post-mortem examinations have given the opportunity, you have seen verified the statement which I have made, that of those in large towns who die of various diseases above the age of thirty, more than half exhibit in the lungs more or less of tubercular disease or the traces which it leaves behind."*

In Italy itself, and the South of France, it is well known that the proportion of deaths from this cause is, if anything, greater than it is in England.

To ascertain with any degree of certainty the number of deaths which arise from this cause amongst the inhabitants of Hastings, it is absolutely necessary to inquire minutely into every individual case that may be registered, as having occurred within the limits of the borough. Unless this

Medical Gazette, 25th March, 1842.

inquiry is carefully made, it is impossible to obtain a result at all approaching to truth, as from the great number of invalids of this description collected from all parts of the country—many of them in the last stage of consumption—it is only reasonable to expect that a large proportion of deaths from this disease will consist of those who have been injudiciously brought from a distance, many of them at a time when their case was already hopeless, and who were literally sent hither to die. But even with this large addition to the numbers, the average of deaths from this cause is not greater than in other places; and when the inhabitants are carefully distinguished from strangers, a distinction which I have had the opportunity of making, that average is found to be so much smaller than the amount elsewhere, that it must at once satisfy every reflecting person of the suitableness of Hastings for consumptive patients.

During the four years the registration act has been in operation the entire number of deaths entered in the registrar's books, as occurring at Hastings and St. Leonard's, under the heads "Decline and Consumption," is 161 out of 865 deaths from all causes; now this is hardly one fifth of the mortality, or scarcely so high as the usual average

for the whole of England, as proved by the reports of the registrar-general. But of this number, 70 were entire strangers to the town, and came from a distance, and these being deducted from the 161 the balance left is only 91 deaths from this cause among the inhabitants themselves, or rather more than one for every nine from other causes; thus amounting to scarcely more than one half of the usual mortality from consumption.

But even the above numbers ought to be greatly lessened, as it is well known that nurses, and that class of persons who generally certify the death to the registrar, are in the habit of calling every disease in which there is great wasting of the body a decline; and therefore a great part of the above 91 cases were assuredly not tubercular phthisis. Some, indeed, which came under my own observation were thus improperly classed. For instance, at one season of the year, a great number of persons employed in fishing make an annual excursion to Plymouth for several weeks to catch mackerel, during which period they are necessarily much exposed to the weather, and from this cause often have severe attacks of inflammation; at the same time, being far from home and constantly employed. they seldom have proper medical treatment, and as a consequence they return home, with disease already too far advanced for medicine to be of any avail. During the last year two fine fellows came under my care, as physician to the Hastings Dispensary, precisely under the circumstances above named. One of them had had pleurisy, the other pneumonia. Both cases were too far advanced for medicine to be of any service, and both gradually sunk from the effects of the disease; yet both these cases were entered as consumption, because they were chest affections; and they form a part of the 91 cases, although neither were really affected with tuberculous disease.

It may be alleged that all registered reports are open to the same objection; but the following is another and greater source of fallacy, viz., that still more important class, who having resided several years at Hastings, because suitable for their health, are considered as inhabitants, but who originally came from other places, with a constitution highly predisposed to tubercular disease. The climate may have had its effect in prolonging their lives, but not in restoring their ruined health, and thus they also contribute to swell the list. So that

were all the cases not tuberculous distinguished from those truly tuberculous, and were all who have not been born at Hastings separated from the native population, I am inclined to believe that consumption would be even less than one half as prevalent amongst the inhabitants of Hastings, as at other places; and when we take into consideration the extreme poverty of many of the poor, their meager diet, their wretched habitations, the close and unhealthy manner in which a great part of the town is built,—circumstances that all tend to encourage the development of tubercular disease, and which, doubtless, are the exciting causes of a great many of the cases that do occur, there can be little doubt that were the circumstances of this class of our population in a more flourishing state, so that they might be able to obtain more nourishing food, warmer clothing, more airy and comfortable dwellings, cases of tubercular consumption would rarely occur.

In order that the above facts may be more impressed upon the mind, the following Table will exhibit the relative mortality from pulmonary consumption in several parts of England, for the year 1841, according to the Annual Report of the Registrar-general, and also the relative mortality

from the same disease as occurring amongst the inhabitants of Hastings for four years.

	Total number of Deaths from all causes.	Deaths from Pulmonary Consumption.	Proportion of Deaths from Consumption.
England and Wales for 1841	338,979	59,559	l in 5.6
Buckingham, and neighbouring district	968	239	4
Cambridge	547	131	
Warwick	678	164	
Exeter	646	141	4.5
Northampton	687		4.6
Worcester	717	144	5
Barnstaple, Devon	1522		6.6
Eton, Amersham, Bucks	663		7:6
Dudley, Worcestershire	1891	211	
Hastings for 4 years	865	91	9.5

Having in the preceding pages given a description of tubercular consumption, and shown the comparative rarity of this disease at Hastings, I proceed to give such general directions as may point out the first threatening symptoms, and at the same time suggest the best prophylactic means of preventing the disease. I would commence this subject by again impressing upon the reader the absolute necessity of not considering tubercular consumption as exclusively a pulmonary disease. It is from the prevalence of entire misconception on this point that the St. John Longs, and a host of other charlatans

have been enabled to indulge their cupidity, and deceive their victims with delusive hopes. Until this truth is well understood by the public generally, pretenders, however unprincipled and absurd, need little more than unblushing impudence to secure a golden harvest.

Attend to the general health, must be the first maxim in every successful plan of treatment in this disease. In order that the first failure of health may be observed, I shall proceed to describe the signs whereby this change may be known. The appearance of the individual must in a great measure depend upon the temperament of the body.

If the person is naturally of a florid complexion, there is often a death-like paleness in the countenance, intermixed with a red of a bright colour, and these patches of red terminate not in the gradual manner of a person in health, but abruptly, so that the face appears blotchy; and the eyes in persons of this class are usually bright, glassy, and sparkling. The sallow complexion, on the contrary, becomes more sallow; the face has a livid hue, the lips pale, the eyes dull and lifeless, and the whole countenance sunken. This state may continue a considerable time, and occasion no alarm, either to the patient or

his friends; the former considering himself only a little languid, and the latter thinking that nothing is the matter but a little delicacy of constitution, and inactivity as a consequence of it, which will go off as the patient gets older, or perhaps as the weather gets warmer or more bracing. If the patient is carefully observed at this time, the digestive organs will be found somewhat deranged; perhaps the appetite is deficient, or inordinate, the tongue furred in the morning, the skin also sympathises with the change, it is either dry and harsh, or moist and clammy.

The fair are even more than usually fair; the veins beautifully blue and distinct. In the sallow complexions the skin becomes of a yellowish colour. The action of the heart, as might reasonably be supposed, from the above symptoms, is also much influenced; the pulse is generally weaker, but quicker than is natural, and the blood is imperfectly circulated through the extremities and the cutaneous vessels; hence coldness of the feet, with a general sense of chilliness over the whole body. The spirits are generally good, and the mind buoyant and cheerful, even when the disease becomes more marked. Sometimes, on the contrary, the patient

is anxious and impatient, sleeps badly, and has great irritability of temper.

These various symptoms often steal on very imperceptibly, and are frequently unobserved, either by the patient or his friends; and this is particularly the case where the predisposition is either acquired, or where, at least, the parents of the patient have themselves been free from scrofula; for in such cases the disease is not suspected until it has made considerable progress, and perhaps those vital organs, the lungs themselves, become fatally implicated.

The causes which lead to this dangerous state of health are various, for whatever deranges the general health and occasions debility may produce it. Amongst the former of these causes may be enumerated a cold damp atmosphere, an improper or deficient diet, want of exercise, or excessive mental labour or anxiety, insufficient clothing, and close ill-ventilated apartments. These causes, especially if combined, may not only excite the disease in those hereditarily disposed to it, but even in those who are born perfectly healthy. The more effectual means of repelling this disease are, in the first place, a removal to a warmer and drier atmosphere. With

this important advantage, let the patient have pure air, moderate but regular exercise, a nourishing, but not a stimulating diet, early hours, bathing, or sponging the body over with cold or warm water; let the clothing be warm, and let him carefully avoid all severe bodily or mental toil, and all vicious and exhausting indulgences. Upon these various subjects I have treated more at large in the chapters upon diet, regimen, exercise, &c. When, however, such a formidable disease as consumption threatens, the sooner the patient applies for medical advice the better.

It has often been discussed whether consumption is a contagious disease, but the question may readily be answered in the negative. It is true that the kind and affectionate being who has sedulously watched the dying couch of a beloved sister or brother, soon after sickens, and gradually sinks from the same disease; but a ready solution offers itself here. She possessed, equally with her departed relative, a predisposition to the disease. But we often see an unnatural bloom upon the otherwise pale cheek of the tender and attached wife, who is anxiously devoting her unwearied services to her dying partner. After a time the cheek becomes

paler, although the bloom still continues; the strength decays, and all around perceive that the same fatal disease is preying on her vitals. Is not this contagion? The only connexion between them was one of affection, not of blood. The same reasoning will not do here as in the former case. But let us refer to what are enumerated among the exciting causes of this disease, and ask the questions. Has there been no prolonged and painful watching? no disturbance of the natural rest? no confinement in the unwholesome air of a sick chamber? no mental anxiety? no loss of appetite? All these are causes sufficient to produce the disease, and to these may be added the fact, but too well ascertained, that there are comparatively few families entirely free from the hereditary taint.



CHAPTER V.

DISEASES FOR WHICH THE CLIMATE OF HASTINGS IS SUITABLE.

Necessity of proper medical advice to all invalids seriously indisposed.

—Indigestion.—Atonic Dyspepsia.—Inflammatory Dyspepsia.—

Strumous Dyspepsia.—Consumption.—Chronic Bronchitis.—

Asthma.—Neuralgia.—Rheumatism.—Gout.—Scrofula.—Diseases of Children.—Diseases of the Skin.—Concluding remarks.

The following brief sketch of the diseases which are likely to be relieved by a residence at Hastings is necessarily incomplete, both as to the minute description of their symptoms and also as to the omission of many others which might have been with equal justice introduced; it will however serve as a guide to the general reader. It is not intended to lead patients to become their own medical advisers; on the contrary, I am convinced, that no individual suffering from actual and serious disease can prescribe judiciously for himself. I consider proper medical advice to be absolutely necessary.

The united testimony and practice of all the professors of our art confirm this opinion. Is a physician ill, he trusts not himself but consults one of his brethren; even the eminent and lamented Dr. Baillie, only a short time before the close of his life, and when the mortal character of his malady was evident, even to the non-professional persons around him, had such an imperfect judgment of his own case as to deceive himself to the very last. The members of the legal profession have a quaint saying, "that he who is his own lawyer, has a fool for his client," and too often does impaired health and incurable disease prove the truth of this maxim, when applied to those who act as their own physician when suffering from grave diseases. As far as my own observation goes, after nearly twenty years' experience in my profession, I have scarcely met with a single individual who judiciously treated himself.

Dyspersia. Perhaps there is no class of diseases of a chronic character more common, producing more discomfort, or tending ultimately to more serious consequences than those affecting the organs of digestion and nutrition: few persons whose

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habits are sedentary entirely escape from symptoms of indigestion, and year after year the malady continues to increase, until at length these organs either completely lose their tone, their functions are imperfectly performed, and hypochondriasis, with great emaciation, supervenes; or organic disease takes the place of healthy structure, rendering the complaint incurable and leaving the sufferer no other prospect but a lingering death. As dyspepsia arises from various causes, entirely dissimilar from each other, so a particular mode of treatment is required according to the peculiar character of the malady. It is unnecessary to enter minutely into the subject, I shall therefore only point out some of the most common forms, and those which are most likely to be relieved by a residence at Hastings.

ATONIC DYSPEPSIA. This term is applied to that condition of the digestive organs in which they appear to have lost their power or tone: the disease is characterized by loss of appetite, nausea, general debility, and a sense of chilliness; a languid pulse, pale countenance, coldness over the region of the stomach, accompanied with heartburn and eructation after eating; the bowels are constipated, the urine

abundant, but of a paler colour than natural: this kind of dyspepsia is often accompanied with hypochondriasis, and is best relieved by change of scene, sea air, and tepid bathing; a light and nutritious diet, with a course of such medicines as will improve the state of the digestive organs, and give tone and vigour to the system; such invalids must be careful in selecting a suitable residence, which ought to be in some of those parts of the towns of Hastings and St. Leonard's which are comprised under the third and fourth divisions in the sixth chapter of this work.

Inflammatory dyspersia. The functions of the stomach and upper part of the bowel may be imperfectly performed for a considerable time, until at length the mucous coat becomes the seat of subacute inflammation, which manifests itself by an inordinate craving for food, thirst, headach, a red and often dry tongue, beset with elevated red spots, particularly near the apex; there is pain over the region of the stomach and upper part of the bowels, a deficiency of most of the accustomed secretions; the mind also participates in the deranged state of the health, and is irritable and depressed, accom-

panied with lassitude and dislike to all exertion. All stimulants increase the symptoms. The best mode of treatment will be found to be that which is calculated to subdue inflammatory action; such as a light, nutritious, unstimulating diet; warm sea bathing, a course of alterative medicines, with regular but gentle exercise in the open air, partieularly aquatie excursions, or riding in a earriage.

STRUMOUS DYSPEPSIA. The peculiar character of this affection was first pointed out by Dr. Todd, of Brighton, who thus named it from its marking out that state of the system which occurs previous to the deposition of tuberculous matter in the various tissues of the body. The symptoms of this affection manifest themselves at a very early age, often during the first dentition; the patient is fretful, the appetite irregular, often voraeious, the belly tumid, the bowels relaxed or confined, the evacuations unhealthy; there is great lassitude and apparent want of interest in the pursuits and amusements of the patient's age; the museles are flaecid, the sleep restless, aeeompanied with moaning and grinding of the teeth; the tongue has generally a peculiar appearance, being eovered over with a thin white mueus, studded with red

spots, particularly near the apex. As the patient becomes older the tonsils are apt to become inflamed, and there is a great tendency to sore throat from the slightest cold. Chilblains are also a frequent accompaniment of this affection, showing a great want of power in the cutaneous circulation. These symptoms, unless checked by appropriate treatment, continuc to increase until the age of puberty, when, if tuberculous matter has not been already deposited in some of the tissues of the body, it may be expected to manifest itself in the organs of respiration, and tubercular consumption supervenes. But it is during this state of derangement of the digestive organs that the physician is able, by judicious treatment, to exercise the greatest influence in preventing those ultimate changes which, sooner or later, destroy life. It is at this period of the disease that consumption may be said to be really curable; for, although this malady does not, as yet, actually exist, all that leads to it is present; and, however beauty or intellect may have adorned the opening flower, the canker-worm is at its root, and the first wintry blast or sultry sun will assuredly blight its full maturity. The most important benefit in this disease will be derived from a residence in a sheltered situation, on the sea coast. with attention to diet and regimen, cold sea-bathing, proper medical treatment, and daily exercise in the open air. When the state of the digestive organs will allow of its use, a course of the Hastings chalybeate water will be found very beneficial.

I cannot leave the subject of dyspepsia without introducing the following extract:

"Among the remedial measures for these various morbid conditions of the digestive organs, and the sympathetic diseases which originate in them, change of climate is one of the most efficient. Even where the patient cannot avail himself of a more complete change of climate, he may still derive much benefit from a temporary residence in some of the milder situations in our own island."*

Consumption. That state of the general health which is the predisposing cause of consumption, has been considered in the preceding article: to show how far the climate of Hastings is suitable for patients affected with the disease in its more advanced stages, I would refer to the striking facts exhibited in the chapter appropriated to that subject.

^{*} Dr. Clark on the Influence of Climate, p. 22.

CHRONIC BRONCHITIS. Under this head I would include all chronic affections of the air-passages, whether the bronchiæ alone, or the trachea or larynx also may be implicated. Chronic bronchitis, or winter cough, is a disease to which elderly persons are more particularly liable, although it may also affect those in early life, but in such cases it is generally the sequel of other diseases, such as measles, hooping-cough, or some cutaneous eruptions; this disease is also the bane of those artisans whose employments compel them to labour in an atmosphere loaded with particles of extraneous matter; amongst cutlers it is generally called grinders' asthma. Sir Arnold Knight, M.D., of Sheffield, in the North of England Medical Journal, states that almost all fork grinders who use a dry grindstone, die at the age of 28 or 32; that out of more than eighty who followed this employment, there was not a single individual 36 years of age. Chronic bronchitis, when occurring in elderly persons, is generally the result of acute disease, and manifests itself by habitual cough and expectoration; this is more severe during the winter and spring months, hence its popular name. When the disease is more severe there is considerable difficulty of breathing,

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with occasional pain in the chest, accompanied with febrile symptoms; digestion is generally impaired; expectoration is more copious, and sometimes streaked with blood. The treatment must vary according to the symptoms. While blisters, counterirritants, and expectorants are duly employed, attention must also be paid to the functions of the organs of digestion. All vicissitudes of temperature must be avoided: on this last topic I will quote the words of one of the most able physicians of the present day: "It is scarcely necessary to insist on the importance of avoiding extremes, and sudden transitions of temperature, improper clothing, and all those circumstances which are in themselves frequent exciting causes of the disease; when reapplied they must necessarily prolong it, and not a few instances are met with where, owing to the nature of our climate, it is impossible sufficiently to avoid them. In these cases, in spite of the most careful administration of remedies, the disease persists, but a perfect cure is effected by simple removal to a more genial climate."*

ASTHMA. This disease has its origin from so

^{*} Dr. Williams on Bronchitis, Cyclop. of Prac. Med.

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many and various causes, that each individual case requires the most careful consideration of the physician before any remedy is recommended. Should, for instance, the asthma depend upon disease of the heart, of any vital organ, change of climate could only be useful in as far as it benefited the original malady; but, in the purely nervous spasmodic asthma, much may be expected from this measure. To those who experience or witness an attack of this disease for the first time, it appears one of the most formidable maladies to which the human body is liable, and yet scarcely an instance of death has been known to occur during the paroxysm, however severe it may have been. The asthmatic patient has usually some premonitory warnings previous to an attack: these generally consist of symptoms of indigestion, heartburn, distension of the stomach, pain over the eyes, &c. The paroxysm most commonly occurs in the night; the patient experiences a constriction over the chest, which impedes respiration; he starts up in bed, flies to the window for air; he breathes only by gasps, with a wheezing sound; he has a tendency to cough and inability to speak. This state continues for some time, when a remission ensues, and the patient gradually and slowly recovers from the

attack. The asthmatic patient is generally a perfect barometer, indicating the approach of those winds and those circumstances which usually excite a paroxysm with as much certainty as the mercury rises and falls. Generally speaking, alleviation will be experienced from a change to those places where the thermometer is little variable, and which are sheltered from the north and east winds; and Hastings is therefore particularly suitable for such patients. A lady, a friend of the writer's, from the north of England, who has spent the last two winters in Hastings, has experienced the greatest benefit from this change; the winter previous to her leaving home she was unable to leave her bed-room during the colder months, but not a single day during the last two winters was she unable to go into the drawingroom and enjoy the society of her family, and not a single week has she been prevented taking exercise in the open air. Patients who are suffering from dry spasmodic asthma should choose a residence sufficiently sheltered, and yet not too relaxing to the system; and, generally speaking, those parts of the town which are comprised in the second and third divisions in the chapter upon choice of situation, should be selected. While, on the contrary, those affected with humid asthma, where the disease is complicated with chronic bronchitis, must be more careful of the locality they select for a residence, and for such patients the first, or the more sheltered parts of the second division will be found most suitable.

NEURALGIA, OR TIC DOULOUREUX. The peculiar character of this affection was first pointed out by M. Andre, a surgeon of Versailles, in 1756; but it was first accurately described in this country by Dr. Fothergill, in the fifth volume of the Medical Observations and Enquiries, as an affection of the nerves of the face, under the title of "dolor cruciens facici;" but later observations have shown that all parts of the nervous system arc liable to this malady. The pain is not constant, but comes on by paroxysms of longer or shorter duration, and is often excited by the most trifling circumstances. If the face is the part affected, the pain is frequently excited to an extreme degree of violence by the act of speaking, a movement of the body, a slight touch, or even a breath of wind. The discase is usually accompanied with derangement of the digestive organs, and general debility, and has its origin from all those causes which tend to depress the powers of

the system, such as mental anxiety, want of rest, frequent exposure to eold, great bodily exertion, a poor and insufficient diet. This malady arises most frequently from disordered functions of the affected nerves, but it is also eaused, in many instances, by some inflammatory or organie disease of the nerves themselves, or of that part of the nervous eentres from which they derive their origin. By whatever eause the disease may be induced, and whatever may be the remedial measures employed to relieve it, a mild equable elimate, well sheltered, and free from excess of moisture, will be of the greatest assistance as an adjunet; very frequently, without this advantage, all other remedies will be found of little service, as the following striking example of a ease which came under my own observation will testify. In the year 1834, a professional gentleman, aged about 30, of temperate habits, and who had previously enjoyed good health, after an attack of intermittent fever, began to experience slight paroxysms of pain in various parts of the lower extremities: these, being always increased by a humid atmosphere and exposure to eold, were supposed to be, and treated as, chronic rheumatism; they, however, began to increase in severity, so as to impair the general health,

and render life almost a burden. So acute were the paroxysms, that during their continuance the patient could neither eat nor sleep, and was scarcely able to speak; the pain did not continue in one particular nerve, or its branches, but moved with most astonishing rapidity from one extremity to the opposite, and from one part of the same limb to another; or it would continue in one spot, and this often not larger than could be covered with the point of a finger, yet so severe was the agony produced, that I have seen this individual expose the part affected for hours to a temperature below the freezing point, to obtain even a slight alleviation. This suffering was accompanied with great irritability of the nervous system, and during the intensity of a severe paroxysm, the slightest movement of the body, a draught of air, the accidental touch of the dress against the affected limb, were sufficient to induce the acutest agony. This patient would sit in perfect dread of any part of his family coming near him, for fear an incautious step might bring any part of their dress in contact with the part affected. Every means that some of the most able physicians and surgeons in Britain and on the continent could suggest were tried with but little success, and the patient, worn and exhausted by continual

suffering, had almost ceased to hope for an alleviation of his disease. At this period, 1838, Sir J. Clark, M.D. pointed out to him the intimate relation which existed between the exquisite sensibility of his nervous system, and a cold and humid state of the atmosphere, and advised that, with the strictest attention to diet, a residence should be chosen which was well sheltered from the colder winds, and which had an absorbent subsoil. For this purpose he recommended Clifton, Hastings, or the Isle of Wight; his advice was followed, and the patient gradually experienced the advantage of the change; the general health improved, the paroxysms became slighter and less frequent, and hope, ease, and health took the place of pain, debility, and despair. After a time this gentleman returned to his former residence, which was esteemed extremely healthy, but where a tenacious clay formed the subsoil, and where, consequently, during the winter months, the atmosphere was cold and humid: his disease again began to manifest itself, and threatened soon to be as severe as before. Necessity, therefore, again compelled him to resort to a change of climate, which immediately had the desired effect. This case continues to improve, and, except during very cold and damp weather, the paroxysms

rarely recur, and then in a very slight degree. All that remains of the disease is an irritability of the nervous system, and even this is fast disappearing.

This disease is not only ACUTE RHEUMATISM. one of a most painful character, but after it has once been subdued it is apt to recur from very slight causes, and it would be well if the evil were limited to the present sufferings of the patient, but organic change of the valves of the heart are too often the sequel of rheumatic affections. The disturbance from this cause may seem at first but slight, but the evil continues to increase, until at length the hydraulic machine is unable to propel the vital stream with sufficient energy through the system, so that the powers of life begin to droop, and in the end the patient sinks either suddenly, or more gradually from general debility, preceded by dropsy, or great emaciation. change from a cold and humid climate to one which is dry and sheltered is of great importance to such invalids, and very materially tends to give effect to appropriate remedies, and prevent the recurrence of the disease.

CHRONIC RHEUMATISM. To those who are

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suffering from this very painful affection, a sheltered situation is of the utmost importance, particularly with the additional advantage of warm sea-bathing. No remedy is so valuable in the treatment of chronic rheumatism as warm sea-bathing, whether applied generally or tepically: in that severe form of the disease which has been called nodosity of the joints it is of the greatest service.

Gout. Gout and rheumatism are evidently nearly allied, the structures which are attacked are similar, and the two diseases were formerly considered as one, until their distinctive characters were pointed out by Ballonius in his treatise De Rheumatisme et pleuratide Dorsali, 1642. The leading points of difference consist in the particular joints affected, in the progress of the symptoms, and in their exciting cause. The disease may be either acute or chronic. Acute gout is a genuine inflammatory affection, which runs a defined course, and is attended with inflammatory fever. In this disease the smaller joints are affected, in rheumatism the larger. The chronic form, or irregular gout, as it is called, is attended with no inflammatory fever. In another form, which is called retrocedent gout, the disease attacks some internal

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organ. After acute gout has subsisted for some time, an earthy matter is deposited upon the affected joints, which ultimately obstructs their motions. substance was analysed by Dr. Wollaston, and found to consist of the urate of soda; now all the combinations of uric acid are very insoluble, hence, as gouty persons have an excess of the acid eliminated from the blood, they are not only liable to such concretions forming round the joints, but to the more formidable disease of stone in the bladder. Dr. Ure has lately made the discovery that benzoic acid, taken internally, has the important property of converting the uric into another acid called the hippuric, all the combinations of which are very soluble. We may, therefore, reasonably hope in future, if not entirely to prevent, at least to lessen the deposit of these painful concretions. Although gout is often an hereditary disease, it is more generally dependent upon a deranged state of the organs of digestion, and is, indeed, a disease of repletion. Attention to the state of these organs, therefore, claims our first care; but the curative means will be much influenced by the climate in which the patient resides. To such invalids a residence at Hastings is particularly suitable, for sea air is one of the best means of improving the tone of the

digestive organs. Sir Charles Scudamore observes, "When residence is a matter of convenient choice, a gravelly soil on a middling level, and protected from the north and east winds, should be selected for the purpose."* Amongst the causes which most predispose to gout, the same author observes that "variable climates certainly operate the most in predisposing the body to gout, and locality of situation has a powerful influence, so that the gouty person sometimes finds himself compelled wholly to change his place of residence for one which is dry and protected."

"Changeable weather, and especially in spring and autumn, when cold winds prevail, with frequent wet, acts very strongly on the gouty diathesis; and causes almost habitual achings and increased stiffness in the joints which have been affected, also predisposing the system to a paroxysm. The regular functions of the skin, so important to health, suffer material interruption; and hence the chief explanation of the ill consequences which ensue."†

SCROFULA AND DISEASES OF CHILDREN.-

^{*} A Treatise on the Nature of Gout and Rheumatism, p. 599. † Ibid. p. 78.

Although the peculiar indications of serofulous affections manifest themselves at every period of life, they more particularly commence in childhood and youth. No original temperament or complexion confers eomplete immunity from this disease, although certain peeuliarities in these respects more decidedly point out the scrofulous diathesis; these indications arc more fully treated of in the chapter on Tubereular Consumption. In whatever manner serofula manifests itself, and whatever may be the age of its victims, but especially in early youth, in all its varied forms, a dry and sheltered climate, sea air, with warm and cold sea-bathing, offer the best means of improving the general health, and, by this only rational plan of treatment, euring the disease. In the various diseases of ehildhood and youth, particularly when they assume a ehronic eharacter, the best remedy is undoubtedly a change of air, and cspecially a visit to the sea side.

"Children profit by ehange of air with surprising rapidity; and there are few cases of deranged health at an early age in which it does not merit the first rank in the list of remedies. Delieate females also benefit greatly; indeed, in proportion to the natural susceptibility of the individual is the beneficial influ-

ence of a judicious change of air evinced. It is to the young and delicate the best and often the only admissible tonic; and we have daily occasion to regret the straitened circumstances which keep many such persons lingering in a state between health and disease, in the confined air of the city, or in some equally unhealthy residence in the country, when they might be restored to health and vigour by a temporary change to a purer air."*

Diseases of the Skin. In the treatment of these diseases it is especially requisite that no check be given to its natural secretions. Many of these affections may justly be attributed to suppressed perspiration, and many others are immediately relieved when this important function of the skin is restored after it has been for a time deficient. For all such diseases the soft and equable climate of Hastings is particularly suitable, and in a greater or less degree, generally affords relief; the sea air, probably from the minute saline particles which it contains, appears to exert a most beneficial influence—independent of the excellent opportunities afforded

^{*} Sir James Clark on Climate, p. 47.

for warm and cold sea-bathing and exercise in the open air.

CONCLUDING REMARKS. I cannot conclude this chapter without offering a few remarks upon the opinion of a justly esteemed medical writer, from whose valuable work I make the following extract:

"Judging from my own observation, I should say that the climate of Hastings is unfavorable in nervous headaches, connected with or entirely dependent upon an irritable condition of the digestive organs, and also in cases where a disposition to apoplexy or epilepsy has been manifested, but it will be understood from what has been already stated respecting the topographical relations of Hastings, that this effect of its climate is chiefly experienced in the lower and more confined parts; nor is such an effect peculiar to this place; it is common, I believe, to all places similarly situated. The class of persons alluded to, if induced to reside for any length of time at Hastings, should avoid the more confined situations below the cliff, and rather seek such quarters as are more open and elevated, yet in some degree protected from the north and east winds." *

^{*} Sir James Clark on Climate.

In the above observations the gifted author has displayed his usual acumen, the statistics of disease will support his opinion, for without doubt nervous complaints are very common amongst those inhabitants who reside in the confined parts of the town. In several instances which have come under my own notice as physician to the dispensary, such diseases have been increased by the situation; in female servants, for instance, who have come from the country to reside with families in these particular parts of the town, and who have been already disposed to hysteria and some other nervous affections,—but it must be remembered that this class of persons are very much confined to the house, and therefore more under the influence of the peculiar locality in which they reside than others who are differently circum-Besides, the variety of situation that presents itself for the choice of a residence at Hastings, will always render it unnecessary for such patients to choose a part of the town which would be injurious to their disease, when by a judicious selection they may always obtain one which is highly conducive to their recovery.

CHAPTER VI.

CHOICE OF SITUATION AT HASTINGS, VENTILA-TION, &c.

Directions for the Choice of a Residence.—Ventilation.—Dr. Combe's Practical Lecture.—Dr. Franklin.—Injurious Effects of Bed Curtains.—Injury to Health from want of Ventilation.

The invalid who seeks the alleviation of disease by change of climate, must always bear in mind that this change should not be considered as a remedy in itself, but that it places the body in a situation where the action of other remedial measures can be resorted to with greater advantage. It is not therefore my intention in the following pages to recommend the invalid who is seriously indisposed, to trust entirely to change of climate for recovery. I rather address those who resort to Hastings for its climate, under the advice of physicians—who, residing at a distance, only know the place generally, not the many peculiarities by which it is adapted to

various diseases, and various states of the same disease,—and those who may visit it with a prophylactic view, either to improve a constitution hereditarily weak, or debilitated by disease, climate, mental or bodily exercise: even to those who are necessarily occupied in the metropolis, and who steal an annual visit to lay in, as it were, a stock of health, sufficient for a year's consumption, it is of no trifling advantage to be judiciously advised as to the best means of attaining their aim.

I shall commence this subject by giving an account of the different parts of Hastings most suitable to particular classes of invalids. Nor is the choice of a residence of trifling import to the invalid who resorts to Hastings for climate; for many have had reason to lament, when too late, an injudicious selection in this respect.

A small pamphlet by the author of the Curative Influence of the Southern Coast, which was published in 1829, on the adaptation of various parts of the town of Hastings as places of residence for invalids, divides the town into five separate divisions, recommending each division as suitable to a certain class of patients, at particular seasons of the year. I shall retain some of these divisions with those

alterations which more extended meteorological observations enable me to make.

FIRST DIVISION.

High street, All Saints street, George street, Cavendish place. Very sheltered, and well suited to the most delicate pulmonary invalids during the winter and spring.

SECOND DIVISION.

Croft parade, and Pelham place, Breed's Place crescent, Wellington square, Castle street, and York buildings, Beach Colleges, Caroline place, &c. Marina, Undercliff, and southern range of buildings, at St. Leonard's.

Sheltered, well adapted to those pulmonary invalids who can take exercise in the open air, those suffering from dyspepsia, chronic rheumatism, neuralgia, for both winter and summer.

THIRD DIVISION.

Castle Hill, White Rock, and Stratford Place, Verulam Buildings, parts of St. Leonard's not of the southern range. More bracing, and well adapted for that class of invalids whose systems require tone: suitable for both winter and summer.

FOURTH DIVISION.

St. Mary's Terrace, High Wickham, Montpelier, Barrack ground, higher parts of St. Leonard's.

Very bracing, suitable for those who require a very bracing and tonic plan of treatment, and well adapted as a summer residence for even the most delicate, and to such patients a change to these parts when the summer sets in, gives tone and vigour to the system.

There is but little doubt that the First Division is very suitable to persons suffering from the more advanced stages of pulmonary consumption, during the winter months, as these parts of the town are so hemmed in by the surrounding hills, that sudden squalls, or variations of the wind, produce less change upon the atmosphere, besides which, the mean of the thermometer is higher, and its range less during the winter and spring months, than in the other parts of the town; and as the greater part of the buildings in this division stand east and west, they are not so sultry as some of those in the second division during the summer, not being exposed, like those that have a southern aspect, to the glare of the sun during the whole day.

But, if what has been previously pointed out is borne in mind, that Hastings is chiefly indebted for its suitableness as a residence for this class of invalids to the character of its soil, the height of the hills behind it, &c. &c.,—if it is also taken into consideration that tubercular consumption is as much a disease of the system generally as of the lungs in particular, I think it must be conceded that there are advantages belonging to some of the other divisions, which may more than counterbalance

those of greater shelter and higher mean of temperature, for which the first division is distinguished. One of these is so obvious that it scarcely requires to be named,—the full benefit of the sun during the winter, where the buildings have a southern aspect: but the great advantage is in the excellent opportunities for exercise which the Parade, &c. of Hastings, and the esplanades and colonades at St. Leonard's afford. Those patients who can bear a more bracing air, and a tonic plan of treatment, will do well to choose a residence in those parts of the town which are in the Third Division; and even the more delicate invalids, whose cases required the most sheltered situation in the winter months, will receive great advantage from a change to the more bracing air of the third and fourth divisions during the summer months. Indeed at this scason of the year too great carc cannot be exercised in the choice of a situation for delicate invalids. Too generally, individuals of this class, particularly if they come from the inland counties, are apt to choose a situation close by the sea-side; and in order to be sufficiently near, they will often put up with small and inconvenient bedrooms in a house built in the slightest manner of wood, frequently covered over with a coating of glazed black tiles,—a system manifestly unscientific and absurd, unless the object were to absorb more readily every particle of heat, for who has not felt the difference between a black and a light-coloured dress in a hot summer's day: yet, persons who are accustomed to large airy houses at home, often even suffering from great languor and debility, and who arrive at Hastings, perhaps in the middle of July, choose a lodging in such a situation as exposes them almost to the stifling heat of a tropical climate, and yet such patients wonder they have not been more invigorated by the sea-breezes; they go home often more languid and weak than they came, and are surprised that Hastings should ever have been considered a suitable place for invalids. A young medical student, who came under my own observation during the summer of 1840, had placed himself exactly in the circumstances above named. His case was already hopeless, but he sank with unusual rapidity. Such situations may not, however, be injurious to the stronger invalids even during the summer season, and many of the circumstances which militate against their being adopted by the debilitated during this season, render them peculiarly eligible for the winter.

The apartments in a residence for invalids, should be large, airy, and light. During the summer, indeed, when invalids are expected to be much in the open air, the size of the sitting room may be of less consequence, but the bed rooms, at all seasons, should be of this description: and every room should at all times be kept well ventilated. More languor, oppression, and debility arise from want of attention to this point, than is generally supposed. Such indeed is the great importance of proper ventilation, that a modern French physician, of some eminence, has declared it to be his opinion that scrofula arises from its neglect alone.

"Personal experience, reading, reflection on a great number of facts, and the analysis of many observations, have impressed me with the deep conviction that there exists one principle of scrofulous disease, a cause which predominates over all others, and without which, perhaps, the disease would never, or at least very rarely develope itself. The causes consist in particular conditions of the atmosphere in which the individual resides. However ill-chosen or unsubstantial his food may be,—however much cleanliness may be neglected,—whatever be the nature of his cloth

ing and its adaptation to the temperature, -whatever the climate in which he lives, the exercise he takes, or the duration of his sleeping and waking, —if the house in which he dwells be placed in a situation to which the fresh air and the sun's rays have free and direct access, and the house itself be sufficiently airy, light and well proportioned to the number of its inmates, scrofulous disease will never make its appearance. On the contrary, however well-chosen and nutritious the food, however minute the attention paid to cleanliness, with whatever care the clothing be adapted to the temperature, or the duration of exercise, sleep, or waking be regulated, if the houses are so placed that the sun's rays cannot reach them, or the fresh air cannot be renewed without difficulty; if, in short they are small, low, dark, and badly aired, scrofulous disease will inevitably supervene."*

Let therefore the invalid always remember, that moderate cold is far less injurious than an atmosphere rendered noxious by breathing, and by those emanations constantly exhaling from the surface of the body. "Who has not during the night," says the ingenious Dr. Franklin, "experienced

^{*} Baudelocque, Mémoires sur les Scrofules.

an unaccountable restlessness, which acts as a complete preventive to sleep? let such an one jump out of bed, turn down the bed clothes and walk about his room for a few minutes; let him again return to his bed, and he will immediately fall into a quiet and healthy sleep." What is the cause of this restlessness, but the irritation produced upon the skin by the exhalations from the body being confined by the bed-clothes? How much more injurious must these same exhalations be, when applied to the blood itself through the medium of the lungs. Dr. Combe, in his late visit to the United States, was in the habit of lecturing for two or three hours at a time to crowded audiences in badly-ventilated rooms; in the middle of his lectures he would make a pause, request the ladies to put on their shawls and bonnets, and the gentlemen their hats and cloaks, he would then order all the windows of the apartment to be opened for ten minutes, during which period the audience entered into conversation among themselves; at length the windows were shut, the ladies and gentlemen unbonneted and uncloaked, and he would resume his lecture to an audience refreshed and invigorated in body and mind. All acknowledge Dr. Combe's literary talents and love for science, and here he exhibited an admirable instance of practical philosophy: he well knew that a number of persons, crowded together in an unventilated apartment would render the air impure; that in those breathing this impure air, the blood could not in passing through the lungs receive so perfectly that vitality which it ought to acquire; and that consequently, when the vital stream was circulated through the brain, this latter organ would soon experience the want of its life-giving energy; hence languor, weariness, and inattention would have taken possession of the audience.

Nor should less care be exercised by the invalid with regard to his bed: a soft elastic springy hair mattress, is generally better for a person in delicate health than a feather-bed, and particularly during the summer months. A soft bed closes round the person, and besides confining to the surface of the body the noxious exhalations from the skin, it is very apt to excite those nocturnal perspirations so wasting and injurious to the patient.

Nor ought less attention to be paid to the drapery of the bed. What can be worse than curtains comfortably drawn so as scarcely to admit a particle of fresh air, and thus confining the unfortunate sufferer

to a prison a few feet square. "We are more humane," observes Dr. Combe, "towards the lower animals than towards our own species, for notwithstanding all the refinements of civilization, we have not yet aggravated the want of ventilation in the stable or cowhouse, by adding curtains to the individual stalls of the inmates." Nor is this opinion novel; the injurious effect of bed-curtains has long been pointed out; the philosophic Franklin says, "It has been a great mistake, to sleep in rooms exactly closed, and in beds surrounded with curtains. No outward air that may come into you is so unwholcsome as the unchanged, often-breathed air of a close chamber. As boiling water does not grow hotter by longer boiling, if the particles that receive greater heat can escape, so living bodies do not putrefy, if the particles as fast as they become putrid can be thrown off. Nature expels them by the pores of the skin and lungs, and in a free open air they are carried off, but in a close room we receive them again and again, though they become more and more corrupted. Confined air, when saturated with perspirable matter, will not receive more, and that noxious matter must remain in our bodies and occasion diseases." Let not only the

invalid, but all persons bear in mind that a constant supply of fresh and pure air is as necessary to the healthy condition of the blood, and perfect vigour both of mind and body, as ever food is to a healthy state of the digestive organs, and for the proper supply of nourishment to the system; and although Infinite Wisdom has appointed no monitor immediately to give notice to the body that it is breathing a vitiated atmosphere, in the same manner as hunger admonishes of the necessity of taking food, yet its baneful influence is soon seen in the heavy eye, the pale unhealthy cheek, and the enfeebled frame.

CHAPTER VII.

EXERCISE—AMUSEMENTS, ETC.

Necessity of exercise—beneficial to the mind as well as the body—examples.—Mental pursuits not incompatible with health.—Opinions of eminent men on the necessity of exercise.—Case related by Dr. Barlow.—Different sorts of exercise—dumb-bells—walking—riding on horseback, in a carriage.—Friction.—Places for exercise.—The respirator.—Archery.—Fencing.—Les Graces.—Dancing.—Boating and fishing.—Natural history—geology—music—works of fiction—laughing—games.—Exercise for children.—Female education.—Spinal disease.—Injurious effect of inordinate mental excitement in children.—The late Mr. Cobbett.—Times for taking exercise.

EXERCISE of body and a cheerful occupation of the mind are especially necessary and beneficial to the invalid, for often the languor produced by disease, and the interruption of ordinary occupations, betray the sufferer into habitual indolence. This arises both from the languor produced by disease, and from his being severed from all his ordinary occupations. This feeling ought to be carefully guarded against; inactivity of body will often counteract all remedial

measures, and this is particularly the case in incipient tubercular disease. The beneficial effect of exercise is not confined to the body, it extends also to the mind; so necessary, indeed, is bodily exercise. that without attention to it few have attained to any eminence; and it may be said that the greatest men, both of ancient and modern times, philosophers, orators, historians, and poets owed to active and continued exercise that healthy vigour of the mind which enabled them to astonish an admiring world. Socrates, the son of a statuary, spent the first years of his life mallet in hand: Cicero, when he first appeared in the forum, was in such delicate health that his friends despaired of his life; but he left Rome and the forum for a time, travelled in Greece and Asia Minor, and while he improved in all the graces of oratory he acquired bodily vigour. Peter the Great travelled in several countries of Europe; in England he laboured as a common shipcarpenter, and while strengthening his body by exercise, he laid up such a store of useful knowledge as enabled him amazingly to improve his dominions. The works of Herodotus, Julius Cæsar, Clarendon, &c., show such vigour as can only be found where there is a "mens sana in corpore sano." Virgil owed

great part of his fame to his practical knowledge of agriculture; and who that has felt the thrilling power of the lay of Burns, does not recur with interest to the thought that the poet followed the plough.

I particularly dwell upon this subject, because I feel convinced that a great part of the diseases among literary men, clergymen, and the higher classes of society arises from sedentary habits. It is, indeed, useless for the invalid, with a mind jaded by hard study, to seek change of air in order to improve his health, if he is to follow the same sedentary occupations and mental pursuits which have brought him into a state of disease. Mental pursuits in themselves are neither injurious to health nor incompatible with longevity, for of 152 savans, taken at hazard, one half from the Academy of Belles Lettres, and the other from that of Sciences in Paris, it was found that the sum of years lived amongst them was 10,511, or above 69 years for each man. But it is mental labour without corresponding bodily exercise that I consider so detrimental to health; nor am I alone in this opinion. Philosophers, physicians, literary men themselves bear testimony to the truth of my assertion. The elegant Addison reasons thus:- "As I am a compound of soul and body, I consider myself as obliged to a double scheme of duties, and think I have not fulfilled the business of the day if I do not employ the one in labour and exercise, as well as the other in contemplation." Dr. Cheyne remarks "that labour and exercise are indispensably necessary to preserve the body any time in due plight: the studious and the contemplative ought to make exercise a part of their religion;" and Dr. James Johnson, when speaking of the diseases of females, says: "Deficiency of exercise in the open air may be considered as the parent of one half of female disorders, by multiplying and augmenting the susceptibilities to all external impressions." The pallid complexions, the languid movements, the torpid secretions, the flaccid muscles and disordered functions, including glandular swellings and consumption, itself attest the truth of this assertion.

Dr. Barlow, of Bath, in the article "Physical Education," Cyclopædia of Practical Medicine, relates a case highly illustrative of the injurious effects produced by a life of indolence, and the benefit of a change to a life of activity. This case I transcribe:

"We once attended a young lady for various nervous complaints, who possessed the most exqui-

site sensibility of frame we ever witnessed. She was brought up with every refinement of education, and the habitual indulgence of every luxury—her parents appearing only to live for the purpose of ministering to her gratifications. Such was her acuteness of sensibility that, at certain times, the mere opening or closing of a door was agony, such her helplessness that oftentimes she could scarcely muster energy enough to raise her hand to her head. In the midst of this her father became a bankrupt, and soon after died. This family were now obliged to labour for their support, and on this feeble creature devolved much of the care of providing them subsistence. She had talents, and she exerted them. With the assistance of friends she opened a school, which she superintended with unremitting assiduity. nervous maladies vanished, and for years she persevered in her altered but more happy course of life. It would have been fortunate if she had commenced this earlier, for the delicacy of constitution created by early mismanagement laid the foundation of phthisis, of which she eventually became a victim."

But it is not only necessary to have exercise, but that exercise should be of such a character as will not only bring the muscles into moderate action, but also interest the mind. Exercise, for instance, with the dumb-bells, jumping the rope, and other similar diversions are seldom productive of much benefit to the adult; they are deficient in interest, and do not excite a corresponding activity of the mind. They should, therefore, never be adopted by adults to the exclusion of those species of exercise which engage the mind, and at the same time call the limbs into action. Task exercises are pronounced by an amusing author to bear pretty much the same relation to health as the castigations of the penitent do to piety and virtue; and assuredly they never have that salutary effect which employment connected with interesting and pleasurable ideas has, when not extended so as to produce fatigue.

It is asked what are the exercises suitable to the condition of invalids? These, of course, must depend upon the strength of each individual; walking, if the strength will permit, or riding on horseback; this latter is of great advantage to the invalid, and is thus eulogised by a modern author: "The glow of health, the brilliancy of complexion, which a gallop produces, nothing else imparts to a lady's cheek;"*

^{*} Dr. James Johnson.

and Sydenham used to say that horse exercise was as certain a remedy for consumption as Peruvian bark was for an ague. To those who cannot bear those active exercises one less fatiguing must be resorted to, such as a chair or carriage, and when the invalid cannot even take this, friction may be used to great advantage; if the operation is well and frequently performed it will answer the purposes of excreise. In some diseases it is highly beneficial. With regard to friction, Sir William Temple used to say that no man need have gout who can afford to keep a slave. During the winter months, and particularly when the wind is in the north and northeast, the Parade at Hastings, the Esplanade at St. Leonard's, and all the streets facing the south at both places, afford warm and completely sheltered promenades, which ought never to be disregarded by the invalid; even in the highest winds the Highstreet, the Croft, and all parts of the middle of the town of Hastings will be found warm and sheltered, while the respirator, the happy invention of Mr. Jeffery, has rendered it no longer imprudent, even for phthisical patients, to go out at all seasons of the year. At the same time it should never be forgotten that

the invalid will receive extra benefit from some mental recreation being combined with exercise; and during the summer months the archery grounds offer a pleasing and healthy amusement, highly advantageous to those who have a narrow and contracted chest. The revival of this art, which once was England's glory, is a pleasing circumstance of the present day. There was a time when one of England's bishops, and one who sealed his faith with his blood, did not think it beneath the dignity of his office to enforce its practice from the pulpit. In a sermon of Bishop Latimer he says: "Men of England, in times past, when they would exercise themselves, (for we must needs have some recreation) were wont to go abroad in the fields for shooting; it is a gift of God which he hath given us to excel all nations withal. In my time my poor father was diligent to teach me to shoot, as to learn any other thing, and so I think other men did their children; he taught me how to draw, how to lay my body to the bow, and not to draw with strength of the body. I had my bows brought me according to my age and strength; as I increased in these, so my bows were made bigger and bigger, for men shall never shoot well unless they be brought up to it.

It is a godly art, a wholesome kind of exercise, and much commended in physic."

Feneing is also a good exercise for boys, if not carried beyond moderation; so also is the game called "Les Graees," for both sexes; this last game is admirably calculated to bring the muscles of respiration into healthy action, and that without great fatigue, while it is usually enjoyed at a proper time of the day.

Daneing also will be found good exercise, if the strength will bear it, and it can be enjoyed in well ventilated apartments, at proper hours. But the fashionable ball-room is no place for even the delicate, much less for the invalid. Alas! how many a fair and beautiful girl, how many an amiable and noble-minded youth, has fallen a sacrifice to the shrine of Terpsiehore in passing from the crowded ball-room into the midnight air.

Boating and fishing are also good amusements in warm weather, and are highly conducive to the improvement of health. But Natural History offers to those who can take pleasure in it a constant fund of entertainment, and opportunities for healthy exercise: and its pursuit is strongly recommended by all physicians who have written upon this subject.

Sir James Clark, whose authority ought to be received with the greatest deference, thus writes: "A taste for botany, geology, and similar pursuits, which necessarily imply exercise in the open air, should always be encouraged in persons of a delicate constitution; the study of marine botany, and of the numerous branches of zoology, which can only be pursued on the sea-shore, also contributes greatly. when used with proper precautions, to amendment of the health."* The young, or middle aged, whose health is likely to continue delicate for any length of time, I would earnestly advise to commence some branch of natural history. The means of acquiring the first principles of any subject of this kind are now made so easy by numerous publications, that a little mental labour is quickly and amply repaid; and the pleasure to be derived from these sources of amusement are such as the students of Nature can only feel. If the reader is fond of botany, the rugged cliff, the undulating downs, the sequestered valley, the secluded woods, the cultivated fields, and hop-gardens, and even the ocean itself invite him to an almost infinite variety in the neighbourhood of

^{*} Dr. Clark on Consumption.

Hastings. Flora offers her richest, and some of her rarest stores; see

"How snow-drops cold, and blue-eyed harebells blend Their tender tears, as o'er the stream they bend; The love-sick violet, the primrose pale, Bow their sweet heads, and whisper to the gale; With honey'd lips, enamoured woodbines meet, Clasp with fond arms, and mix their kisses sweet."

DARWIN.

With respect to marine botany, this coast exhibits a great variety of Algæ, and also of those singular productions, Zoophytes. This branch of the science offers a double advantage, as it can be pursued at all seasons of the year.

The sea, indeed, offers a large and rich field for the study of natural history, a pursuit, which parents who bring their families to the coast would do well to keep in view.*

Even the very young, if taught to arrange scienti-

* As an aid in the pursuit of Natural history, the advantages offered by the Hastings Literary Institution should not pass without notice, particularly as both the library and museum, containing valuable publications and specimens, are, by a liberal arrangement, made accessible to strangers. It is to this institution that I am in a great measure indebted for the observations, from which I have compiled most of the meteorological tables in this work. The journal of the register thermometer has been kept for nearly five years by Robt. Ranking, Esq., the rain gauge by John Phillips, Esq., secretary of the institution.

fically, will receive, with a double pleasure, any little present of those beautiful productions of the deep,

"In glassy volutes roll'd

The gaudy conch in azure, green, and gold."

DARWIN.

Those, also, who take an interest in Ichthyology, will find on this coast a great variety of the finny tribe, for the inspection of which the obliging temper of the fishermen affords every facility.

To the geologist, the peculiar character of the Hastings' sand formation must be a subject of great interest. Nor must I forget, in the list of those who take delight in studying the wonders of Creation, the pure lover of Nature, to whom the infinite variety of scenery in the environs, the everchanging sea, with wave chasing wave, and bearing upon its bosom the "careering bark;" the pebbly beach, the broken cliff, with rocks scattered in wild confusion; the brooks, the dells, the crags, all afford endless scope for his imagination, or his pencil.

"Nature, enchanting Nature! in whose form
And lineaments divine, I trace a hand
That errs not, and find raptures still renew'd,
Is free to all men—universal prize!
Strange that so fair a creature should yet want
Admirers."

COWPER.

There are also many amusements not injurious to health, which can be enjoyed within doors, but it is necessary that these should not be carried beyond their proper limits, and that the posture which is required for their pursuit be not such as will produce disease. Amongst these, music forms a delighful recreation, and when not carried to excess affords great enjoyment both to the persons themselves, and those around. It is, however, unfortunately the practice of the present day, not to be content with using music as an amusement, but to abuse it to the ruining of the health, and bringing on tubercular disease, and premature decay, in numbers who would otherwise have been strong and healthy. And what other result can be expected when this pursuit, which necessarily demands a constrained position, often occupies from four to six hours each day. "The mania for music," says Dr. James Johnson, "injures the health, and even curtails the life of thousands, and tens of thousands annually of the fair sex, by the sedentary habits which it enjoins, and the morbid sympathies which it engenders."

The story of the syrens is no fable; it is verified to the letter.

[&]quot;Their song is death, and makes destruction please."

"Visit the ball-room, and the bazaar, the park, and the concert, the theatre and the temple, among the myriads of young and beautiful, whom you see dancing or dressing, driving or chanting, laughing or praying; you will hardly find one in the enjoyment of good health. No wonder then that the doctors, the druggists, and the dentists multiply almost as rapidly as the pianos, harps, and guitars."

Nor ought we to omit the injury to the same class of young persons, which is too often produced by an immoderate indulgence in works of imagination; in this case, certainly, the delicate are neither confined to a particular pastime, nor necessarily kept within doors, and if the practice is pursued with moderation, it is rather beneficial than injurious to health, but when carried beyond this, it must produce the same morbid sensibility as music.

"Dang'rous conceits are, in their natures, poisons, Which, at the first, are scarce found to distaste; But, with a little act upon the blood."

While upon the subject of exercise, I would not omit to point out the great advantage of cheerful and exhilarating conversation, especially amongst young persons: "To laugh,—and grow fat," has become an adage in more than one language, and

when it is considered that in a hearty laugh the chest is expanded, and the lungs healthily exercised, there is as much philosophy as truth in the proverb: it is pleasantly observed by one author, "that the reason why women require less bodily exercise than men is, that they, in general, are more loquacious;" the exercise of speaking, singing, &c. is said also to be a cause of the superior longevity of clergymen and public speakers.

Some of the lighter games also are beneficial to the invalid, if played for recreation only, particularly those in which there is a little bodily exercise combined with the mental occupation. Children, especially, ought to be allowed freely to play and amuse themselves, and this not only when suffering from ill health, but when perfectly well, a freedom from irksome restraint should be allowed. The very laughing and crying, hallooing and singing, running and jumping, are only so many means adopted by nature to give strength to the bones and sinews, and tone and vigour to the muscles. What then should be said of that system of female education where young ladies are so sedulously engaged in their studies, that time can only be found once in the twenty-four hours for exercise, and this wholly consisting of a monotonous walk, two and two, more like a procession of nuns, than young and active girls: whenever nature is a little obstreperous, and shows herself, by a louder laugh, or more active movements of the limbs than ordinary, the unfortunate culprit who has not sufficient strength of mind to resist her impulses is severely chid for her rude and unlady-like demeanour. It is far from my intention to say that such is the management in all girls' schools, on the contrary, there are many, and the number is considerably on the increase, where a more rational system is followed. I only know that in many cases this description is not overdrawn. It is too often the case, that parents are so unreasonable as to desire that whatever may be the abilities of their daughters, they are to be made perfect in every accomplishment; the blame in this case rests rather in the parents themselves than in the managers of schools; but wherever it rests, the certain result is a debilitated state of the system, which often ends in tubercular or spinal diseases. It is said by a modern author, that "for fifty young ladies who become twisted, between the ages of eight and fourteen, there is not more than one poor girl similarly affected, and for one hundred young ladies who are twisted, there is not one young gentleman."* It should never be forgotten that exercise is not only necessary for the body, but without it the mind can never attain its full vigour. It is from neglect of this principle that so many immediately injure their health, and debilitate the mind. sant mental labour, without active bodily excreise, must necessarily produce premature decay; and this is more likely to happen to young persons who study hard: the consequence often is, either a mind unhinged, or a body weak and emaciated, with a proclivity to insidious diseases; and this is particularly observed, when the very young are allowed and encouraged to exercise too deeply their mental powers. Indeed, one of the most injudicious and general practices of the present day is that of parents priding themselves upon the precocity of their children in mental acquirements.

Many a fine intellect has been destroyed, many a child of promise has drooped, and sank into an early tomb, either from disease of the brain brought on by over excitement, or by this excitement of the brain preventing the perfect development and exercise of the organs of nutrition and growth. It is a maxim

^{*} Shaw on the Treatment of Spinal Distortions.

which parents ought never to lose sight of, that the first period of life is designed by the Creator for bodily not mental development; and therefore whenever the mind is inordinately exercised in childhood, in all probability, either insanity, hypochondriasis, nervous disorders, or an early death will be the consequence. One of the most extraordinary men of the present age, himself an example of the opposite practice, has, in his own terse and strong language, ridiculed the evil spoken of. I allude to the late Mr. Cobbett: born in the lower ranks of life, his mind remained perfectly uncultivated until he had attained boyhood, and even when he became a man he was better acquainted with farming than books, yet by the unaided resources of his own mind, he acquired such a general knowledge of languages, political economy, history, agriculture, &c. &c., as to become one of the most powerful and voluminous writers of an age more than usually productive of great men; and however we may regret his inconsistencies, we cannot but admire his perseverance. His example ought not to be lost upon the minds of parents, and it should impress upon them the extreme folly of being so very anxious for the mental precocity of their children. Nor does this example

stand alone, for a host of great men could be brought forward to prove the truth of these remarks; even the immortal Newton says himself, "that he was inattentive to study, and ranked low in the sehool until the age of twelve;" so generally, indeed, is this the case, that it may almost be eonsidered as a rule, that precocity of intellect is only a symptom of disease, and wherever present, ought by a judicious parent to be discouraged, by placing the child in eireumstances where the mind will enjoy perfect tranquillity, and the body improve in health.

While upon the subject of exercise, it is, perhaps, desirable to point out, that sitting down to a meal should be generally avoided, immediately after exercise, so that the body may in some measure overcome its fatigue; indeed, very often, invalids, although they feel very faint, have but little appetite, until they have rested some short time after exercise.

Attention is paid to this eircumstance by old soldiers; for after a hard day's march, they always, if they have the opportunity, lie down, and rest themselves before they take refreshment.

Nor ought exercise to be taken immediately after a meal, as it then interferes with the process of digestion: amongst the experiments instituted by the late Dr. Thackrah, of Leeds, upon this subject, two dogs were fed at the same time, one was allowed to remain quiet, and the other was kept in active exercise; at the end of two hours, upon dissection, digestion was nearly finished in the one who had remained quiet, while in the other it had scarcely commenced.

CHAPTER VIII.

CLOTHING, BATHING, ETC.

Warmer clothing necessary at the sea side.—Importance of sufficient clothing—injurious consequences of its deficiency in children and young persons.—The most suitable clothing for maintaining the natural warmth and secretions of the skin—injurious effects of the suppression of these secretions.—Experiments upon animals.—Case of skin disease.—Advantages of sponging the body with cold and warm water.—Cold sea bath—directions for its use.—Warm sea bath—when beneficial, &c.

Delicate invalids who visit the sea coast during the summer months, must always bear in mind that he mean temperature of the air is below that of the interior of the country, they will therefore feel the necessity of warmer clothing. This lower temperature arises from the air becoming considerably cooled in passing over a large body of water, the evaporation being much more abundant there than on the land; and the evaporated fluid thus carrying with it a considerable quantity of caloric, in the form of latent heat. This difference of temperature is found

to increase greatly on putting off from the shore, and invalids who go out on aquatic excursions cannot exercise too much caution in meeting the change, by providing themselves with extra garments. Doubtless at all seasons of the year, and in every part of Britain, a sufficiency of clothing affords one of the most important means of obviating and alleviating disease; it is absolutely necessary in our variable clime to guard against those sudden changes of temperature to which all are more or less exposed, and this is more particularly needful with regard to the young. Dr. Milne Edwards, in his researches, has conclusively shown that one of the most prolific causes of death in infants is exposure to cold; nor need this opinion excite surprise, when it is considered that the skin is abundantly supplied with those minute blood-vessels called capillaries, which ramify in every direction, and from which the perspiration is derived. When, therefore, the surface is exposed to cold, these vessels are constringed, and this function is in a great measure suspended, whilst the blood which ought to circulate in them is congested in the internal organs.

Certainly no greater error can be committed than that of exposing young children to cold, slightly

clad, with the intention of making them hardy; this practice too often lays the foundation of a debilitated constitution and incurable disease. The dress of young persons should, of course, be regulated according to the season of the year, and ought to be composed of soft and pliable materials, so as not to obstruct the free and easy motion of the limbs: and although it is desirable that the winter clothing should be resumed early, and laid aside late in the spring, yet it is equally important that the clothing should never be warmer than sufficient to keep the body at its proper temperature. The great object, therefore, ought to be to have such clothing as will sufficiently protect the person, and yet not prevent that due exercise which is so conducive to health. Nor ought less attention to be paid to this subject, as young persons advance to adult age; how many a youth has paid the fatal penalty because he would appear à la Byron, exposing his neck and upper part of the chest to all the vicissitudes of temperature, and clad in garments more fitted for an Italian summer than an English winter. How many of earth's fairest daughters have caused the joyous family circle to become the house of mourning by their early death. only because they would clothe their feet and legs in

an attire more fitted for the ball-room than for the ground when moist and chill. "Insufficient clothing not only exposes the wearer to all the risk of sudden changes of temperature, but it is still more dangerous (because in a degree less marked, and therefore less apt to excite attention till the evil be incurred), in that form which, while it is warm enough to guard the body against extreme cold, is inadequate to preserving the skin at its natural heat. Many young persons, particularly females, and those whose occupations are sedentary, pass days and weeks and months without ever experiencing the pleasing glow and warmth of a healthy skin, and are habitually complaining of chilliness at the surface, cold feet, and other symptoms of deficient cutaneous circulation. Their suffering, unfortunately, does not stop here; for the unequal distribution of the blood oppresses the internal organs, and too often, by insensible degrees, lays the foundation of tubercles in the lungs, and other maladies which show themselves only when arrived at an incurable stage. Young persons of a consumptive habit will generally be found to complain of this increased sensibility to cold, even before they become subject to those slight catarrhal attacks which are so often the precursors, or rather the first stages of, pulmonary

eonsumption."* In the variable elimate of England it is also absolutely necessary to clothe in such a manner as to avoid that feeling of ehilliness which not only prevents the equable circulation of the blood, but produces also an indisposition for exercise; it is therefore advisable for all persons, especially invalids, to wear flannel next the skin during the winter months. To keep the ehest well protected with warm elothing is evidently an object of the first importance to those suffering from pulmonary affections; nor should the same means be disregarded by those who have only a predisposition to those complaints; neither ought less care to be exercised in keeping the feet dry, for wet, damp or eold feet are the most frequent causes of eongestion of blood, and ultimately of active disease in the internal organs of the body. I would here eaution the reader against the popular error of supposing that salt water does not give cold. Assuredly the mere getting wet in the feet with salt or fresh water is not sufficient in itself to produce any injurious eonsequences; it is the continuance of the eold thus produced that constitutes the evil, and this is the same whether the water be salt or fresh; for so long as exercise is continued so as to prevent

^{*} Dr. Combe.

the sensation of cold, no injurious consequences will follow from either. Whatever, indeed, checks a proper and healthy secretion from the skin, must be injurious to health, and conducive to disease, hence the great advantage which is derived from attention to this function by means of ablution and bathing. It ought to be borne immind that the skin, in health, is always secreting from the blood a fluid which has, in some measure, become noxious to the animal economy. Except from inordinate exercise, heat or disease, this fluid is insensibly exhaled from the body; but the saline and denser particles which it contains are being deposited on the surface of the skin, and, if not removed, close up its pores, and prevent this necessary function being perfectly performed; whilst, unless there is a free secretion from the skin, it is impossible for the body to enjoy health. Persons who neglect the proper ablution of their bodies, generally feel chilly and unfit for exercise. Some singular and extensive experiments have lately been made at Paris, by Becquerel, in which some of the lower animals were covered over with a composition which completely prevented transpiration through the skin; in a very short time a thermometer applied to various parts of their body manifested a consider-

able reduction of temperature, and death was produced in every individual case in from four to twelve hours. I lately had under my professional care a gentleman whose body was almost entirely covered over with a cutaneous affection (lepra), the skin was dry and harsh, and secretion from its surface almost entirely suppressed. This patient was extremely sensitive to cold, and seldom stirred from the fireside; he was listless and inactive, and assured me that it required great effort to move. By persevering in the use of warm sea-bathing, and proper medical treatment, in a few months the skin began to perform its functions, when those chilly sensations left him, and his muscular energy and animal spirits returned. Now, precisely the same effect which resulted from this disease, only to a less extent, is produced by the want of proper ablution of the body; a function which is necessary to health is diminished or suppressed. To the phthisical invalid this is attended with a double disadvantage, for if the cutaneous secretions are not properly performed, other organs will be excited to increased action, and such as are in a diseased state, in all probability more than proportionally stimulated: whilst at the same time one of the great objects in the cure of phthisical patients, that of correcting

functional derangement of the viscera will be prevented. A healthy state of the secretions of the skin is undoubtedly a powerful means of resisting the disease; and one of the best methods of ensuring this healthy condition, and indeed of fortifying the entire system of those who are predisposed to affections of the chest, is that of sponging the body every morning with cold water, mixed with vinegar, or containing salt in solution; at the same time, using active friction, either with a flesh brush or a rough towel. This plan not only acts as a safeguard against cold, but if adopted by those who have incipient tuberculous disease, it may obviate that tendency to inflammatory action, which is a prominent feature in these affections.

At bed time, too, after the fatigues of the day, to sponge the body with warm water and soap, not omitting gentle friction, is also a practice highly conducive to comfort and health. The refreshing and delightful sensation produced by this practice will afford ample recompense for the trouble. The temperature of the water used in the morning ablution must depend upon the season of the year, and the temperament and state of health of the person who uses it. When persons adopt this plan as a preventive against cold

and disease, the water should be of the temperature of the air; but if the patient is in delicate health, or has a languid circulation, it may be used not only a little warmer, but even tepid. Sea water, when it can be readily obtained, is always preferable to that made artificially saline.

Cold sea-bathing is a still more powerful means of invigorating the system: its great advantages have been so universally acknowledged and practised in every age and country, that it is quite unnecessary to enumerate arguments in its favour. Yet it must be borne in mind that the very power which this remedy possesses, renders greater care necessary in its application; some general remarks, therefore, upon this subject, will not be misplaced.

The effect of the cold sea bath is to give tone to the system, and it is well suited to all cases of debility when there yet remains sufficient vigour of the system, to induce reaction after the patient comes out of the water. As a general rule, cold sea-bathing is never useful unless a glow is experienced over the entire surface of the body after the immersion. It is always advisable that persons who are very delicate should commence with a tepid bath, repeating it two or three times, and lowering the temperature each

time; or such persons, if they have not been in the habit of adopting the practice previously recommended, of sponging the body over every morning, should do so for two or three previous mornings, before they venture into the sea. Those who have followed this excellent plan will require no other preparation whatever.

The best time of year for bathing is doubtless the summer and autumn, although I have known persons bathe in the sea the whole year, with evident advantage. Assuredly no one ought to commence a course of sea-bathing except in the seasons above named, at which period the temperature of the sea varies from 55° to 70° Fahrenheit. The hour for sea-bathing must, in some measure, depend upon the state of the tide; but, generally speaking, it will be found most serviceable as near the hour of noon as possible; this will be a sufficient time after breakfast for the invalid to have taken exercise, a circumstance which, if not carried so far as to produce great languor and excessive perspiration, will be highly serviceable to the patient, as it renders the circulation more vigorous. If there be a little moisture on the skin, it should always be wiped off before going into the bath, this of itself will not be injurious, as long as the surface

of the body is not chilled, nor the circulation enfeebled by over fatigue.

With regard to the length of time during which a person should remain in the water, this must altogether depend upon the strength of the patient and the temperature of the water; and here it will be proper to observe that, according to the season of the year, the heat of the weather, and even the place where the invalid bathes, the sea will be of a higher or lower temperature. Dr. Forbes says: "If the shore consists of level sand or shingle, the tide which flows in the afternoon, over a large expanse of surface heated by the noon-day sun during the period of ebb, will often be a good many degrees higher than the morning tide in the same place."*

The following memorandum shows the temperature of the sea at Bognor, on the coast of Sussex, in the summer and autumn of the year 1831:

On the 4th of July, at mid-day, the temperature of the atmosphere being 72°, the sea was 69°:

```
July
       12th at 7 A.M. atmosphere 63°, the sea was 66
August 3d
             at 8 P. M.
                                   65°,
                                                   66°.
       11th at 1 P.M.
                                   79°,
                                                   71°.
                             ,,
                                            >>
        5th at 8 A.M.
                                   64°,
                                                   710.
Sept.
                             ,,
                                            ,,
October 29th at 11 A.M.
                                   64°,
                                                   51°." †
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During the winter and spring months of the year

^{*} Cyclopædia of Practical Medicine, art. Bathing. + Ibid.

1842, the following table will exhibit the difference of temperature between the sea and the atmosphere at Hastings:

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Febr. 28th at 9 A. M., temperature of air 45°, sea 43½°, wind W.
              at 6 P. M.
                                          43°
                                               ,, 44°
                                                           S.S.W.
       ,,
                                                       ,,
March 1st
              at 8 A.M.
                                                           S.S.W.
                                         470
                                               ,, 44°
 ,, 23d
              at 12 A. M.
                                                           S.S.W.
                                          50°
                                               ,, 48°
                             92
                                     ,,
April 2d
              at 8 A. M.
                                          48°
                                               ,, 46°
                            ,,
                                                      ,,
 ,, 13th
              at 8 A.M.
                                          46°
                                               ,, 44°
May 1st
              at 8 A. M.
                                          52° ,, 58°
                            22
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Generally the sun is felt more powerfully at the bathing-place at Hastings than at St. Leonard's, on account of the shelter of and reflection from the castle cliff. It will, therefore, often be advisable, when the weather is very hot, for the delicate invalid to bathe an hour or two earlier at the former than at the latter place.

The effect of the cold bath is to give a sudden shock to the system; this cold shock constringes the vessels at the surface of the body, and drives the blood to the internal organs; at the same time, the skin being plentifully supplied with nerves, the nervous system participates, and the effect of this revulsion is a powerful effort made by the heart to restore the circulation; this effort constitutes reaction, one of the great advantages of cold sea-bathing.

Whenever, therefore, there is a tendency to internal congestions of blood, patients should exercise much caution in taking the cold sea bath; and when it is tried they ought not to immerse themselves suddenly, but gradually in the water. With regard to the time a patient ought to remain in the bath, this ought also to depend in a great measure upon his strength. In a first bath a single immersion only ought to be tried by a delicate invalid, those who are more vigorous may continue longer in the water, but never so long as materially to lower the animal temperature, and prevent vigorous reaction. Delicate boys frequently injure themselves by a too long continuance in the bath. Moving the body and limbs, or swimming, is very advantageous. The cold seabath may be taken every other day, every day, or even twice a-day, as the patient may be stronger or weaker. When the patient using it finds it to agree, it ought at least to be continued one month; indeed, when an invalid is very weak, three months is not too long a period for its employment, in order to secure its full advantage. After the patient comes out of the water the body ought to be quickly dried, and well rubbed with rather a coarse cloth, and the clothes put on without delay, when a gentle walk, if

the patient have sufficient strength, will increase the beneficial effect of the bath. In many cases, where the cold sea-bath will not agree with the patient, the tepid or cold shower-bath of sea water will be found highly serviceable. In all affections of the head, and in persons predisposed to those affections, the shower bath is a valuable remedy. An advantage of the shower bath is, that the feet can be kept immersed in warm water during the time of taking the bath. The cold bath ought never to be used by the plethoric, who are liable to apoplexy; by debilitated persons, when the powers of life are not able to produce reaction after its use; by those affected with diseases of the heart; nor in spitting of blood; indurations of the viscera; inflammations of the mucous membranes: and great caution is required in using it in diseases of the skin. But to the invalid who is threatened with tubercular consumption, or any of the various forms of scrofula, in its early stage it is highly advantageous, and affords one of our most powerful resources.

"As a means of giving tone to the system, and enabling it to bear the vicissitudes of climate, the cold bath forms a valuable remedy. I would strongly recommend that it should be used by children and young persons of a scrofulous constitution during the

summer as being one of the best tonics they can employ. For the bath, sea water is to be preferred when it can be obtained, and the air of the coast materially contributes to the benefit which is generally experienced from a course of seabathing."*

But to those invalids who, either from a languid state of the circulation, or from other causes, cannot bear cold bathing, the warm sea-bath may prove a powerful and valuable agent. By the warm bath is understood water heated from 92° to 98°. The effect upon the body being immersed into a bath of this temperature is a pleasurable sensation. It appears both to stimulate the circulation and at the same time to quiet the nervous system; but how these apparently opposite effects are produced has not hitherto been explained. Generally it relieves any slight spasm or pain that may be present at the time, and produces a mental calm. It increases the temperature and circulation at the surface of the body, and by this means lessens congestion of the internal organs. At the same time a quantity of fluid is absorbed, the body swells considerably, as

^{*} Dr. Clark on Consumption.

may be proved by admeasurement, the texture of the skin itself is modified in some measure, and the blood-vessels derive tone and vigour from its operation, while the general circulation is equalised. Possessing, therefore, these advantages, the warm bath may be used, with much benefit, in all cases after great bodily exertion, and many invalids will do well to avail themselves of a warm bath immediately on their arrival at Hastings, to overcome the fatigue of the journey.

It is highly useful to all persons suffering from nervous irritation, neuralgia, cramps, local congestions and cutaneous diseases, both when the skin is in a dry, harsh, and hot state, and also in the opposite state of clamminess and relaxation; nor is it less beneficial in many forms of dyspepsia, lumbago, sciatica and gout, particularly when the febrile symptoms have been subdued.

"When proper constitutional treatment has been premised, the use of the warm sea bath after, proves a most successful remedy; but a greater perseverance may be necessary than the patient is prepared to exert; and I have known it happen, that although the remedy has agreed, no apparent benefit has begun

to appear, until two or three weeks have elapsed; and yet afterwards the best effects have been obtained."* Those also suffering from a predisposition to tubercular disease, in any of its forms, will find the warm bath highly useful as a tonic remedy; this is particularly the case in delicate children, where its beneficial effects are more decidedly manifested.

"The powers of warm or tepid bathing in the treatment of scrofulous children are not sufficiently valued. One of the most powerful means of relieving abdominal congestion, improving the functions of the skin, and giving tone and vigour to the whole system, is a course of warm sea-bathing, with active friction over the whole surface after each bath; the temperature of the bath towards the termination of the course being gradually reduced until it becomes tepid. The opinion that warm baths generally relax is erroneous; they are no doubt debilitating when used by some persons of a weak and relaxed constitution, or when continued too long; but when appropriately employed they generally give tone. I have already remarked that warm bathing greatly promotes the

^{*} Sir C. Scudamore on Gout.

action of alterative medicines; these two remedies, therefore, when possible, should be combined."*

That debility so frequent in young women who have just attained their growth will be greatly relieved by warm sea bathing, accompanied with proper medical treatment, particularly where the strength of the patient will not allow the more active tonic of cold sea-bathing.

The warm bath ought not to be used by persons of a very relaxed state of the body, predisposed to dropsy, those suffering from disease of the heart, spitting of blood, or those threatened with apoplexy. The warm bath ought never to be taken more frequently than once a-day, and generally once every other day is as often as necessary. About a quarter of an hour or twenty minutes is the proper time for a patient to remain in the bath; and its beneficial effects will be much increased by the use of the flesh-brush during the immersion.

^{*} Dr. Clark on Consumption and Scrofula.

CHAPTER IX.

DIET AND REGIMEN.

Attention to Diet necessary for most Invalids.—Effect of the Sea Breezes on the Appetite.—Case of St. Martin.—Time required for Digestion.—Mixture of Food necessary.—Experiments of Stark and Magendie. — Dyspepsia of phthisical Patients. — General Dietetics.—Quantity of Food.—Diet of Children.—Influence of the Mind on Digestion.

ATTENTION to diet is a matter of the first importance to most invalids, for assuredly there are few diseases to which the human body is liable, in which the stomach does not participate by sympathy. Hence the success which has attended the system, adopted by many eminent medical men, of referring the origin of most diseases to derangement of the digestive apparatus. It matters indeed little what remedies are employed,—what measures are adopted for the cure of disease, if attention be not paid to the state of these organs. All would consider it the height of absurdity to propose heavy

labour to any one whose limbs were paralysed or emaciated by disease, and yet the stomach is expected to digest properly whatever is put into it, however crude and indigestible it may be; and that, although this organ from long-continued disease, may have lost its tone, or have its lining membrane in a state of subacute inflammation.

To the invalid when he first arrives on the coast, it is of especial importance that attention should be paid to diet, as generally the change of scene with the sea breezes, and the sanguine hopes of recovery resulting from these causes, give for the time a stimulus to the system in which the stomach participates, and this effect may be productive of great ultimate advantage if judiciously improved. It is important under such circumstances that the patient should not overload his stomach, by taking above his usual quantity of food, and he should carefully observe that that which he does take be of a nutritious and suitable character; by attention to this, the patient will become invigorated, and immediately begin to derive advantage from his change of residence.

Of late years, by the great attention paid to the question of diet, many facts have been elicited

concerning the digestibility of various articles of food. In particular much light has been thrown upon the subject, by the extraordinary and unique case of Alexis St. Martin, a native of Canada, who, by the discharge of a musket, received a wound in the region of the stomach, and by subsequent mortification a large portion of the coverings of the chest and bowels, and a part even of the stomach itself were destroyed. His strength of constitution enabled him to overcome not only the first shock to his system, but the imperfect healing of the wound, which left a fistulous opening, communicating externally with the stomach, so that the whole of nature's elaborations could be seen by the bystanders, from the time the food was received into the stomach, until it passed from that organ. The case fortunately was under the care of Dr. Beaumont, of the American army, a man of great tact and intelligence, who at considerable trouble and expense instituted a series of experiments and observations upon the function of digestion.

The following table exhibits the mean time required for the perfect digestion of various articles of diet in St. Martin, when he was in the enjoyment of perfect health.

	Hours.	Minutes.		Hours.	Minutes.
Rice, boiled	1 1	45	Beef, with salt only, boiled	2	45
Milk, do	2		Do. with mustard, &c.	3	30
Do. raw	2	15	Mutton, roasted	3	15
Pigs' feet, soused	1		Do. broiled	3	
Brains, boiled	1	45	Veal, do	4	
Turkey, roasted		30	Pork, roasted	5	15
Lamb, broiled		30	Soup, beef, vege.	4	
Chicken, fricassee		45	tables, & bread \	~	
Fowl, broiled or roasted			Chicken soup		
Eggs, fresh, boiled hard		30	Bread, wheaten	3	30
,, ,, soft			Parsnips, boiled	2	30
Eggs, whipped and raw		30	Carrots do	3	15
Oysters, raw		55	Potatoes	3	30
Salmon trout, boiled		30	Do. baked or roasted	2	30
Flounder, fried		30	Cabbages, raw	2	30
Beef, good, roasted	3		Do. boiled	4	31

In the above table some articles are digested in a much shorter time than others; but it must always be borne in mind that a proper mixture or proportion of animal and vegetable food produces more healthy chyle, and is always more nourishing than an adherence to any one particular kind alone. This fact was first put to the test of experiment by Dr. Stark, of Vienna, who instituted a number of experiments upon himself, of which he ultimately became the victim, and by which he proved that the most nourishing articles when unmixed with other food,

if they were continued for any length of time, were incapable of affording nutriment to the body. The same fact has also been more fully shown by the numerous experiments of Magendie upon the lower animals. A dog fed upon white bread made from pure wheat with water, died at the expiration of fifty days. Rabbits and guinea-pigs, fed only on one substance, such as corn, hay, barley-flour, carrots, cabbage, &c. died with all the appearances of inanition, in generally from ten to fourteen days. An ass fed on boiled rice died in fifteen days, and during the latter part of the time refused the food. Dogs fed exclusively with cheese or with hard eggs, lived some considerable time; but became extremely weak and lost their hair. What is singular, animals which have been so fed for sometime, and have become much emaciated, continue to get weaker, although a different food is given them, and die about the same time they would have done, had the exclusive diet been continued. The digestive organs appear to be irreparably injured, so that no future treatment can restore them.

It is impossible to give precise rules for diet suitable to every individual case, much must depend upon particular circumstances. The following directions will be found applicable to those suffering from derangement of the digestive organs and general debility; while at the same time they have a particular reference to that class of invalids, who already have, or are threatened with affections of the lungs; as these form the majority of patients who resort to Hastings for the benefit of its climate.

To such individuals it is important that the diet they use should be nourishing, yet easy of digestion; for all such patients, sooner or later, suffer more or less from dyspeptic symptoms, whilst their prospect of restoration to health depends almost entirely upon their strength being kept up by efficient nourishment. When therefore the stomach can bear mutton, game, or poultry, such meats ought always to form a part of the diet. Invalids on their first arrival at the coast, especially if they come from the inland counties, are very apt to take an undue proportion of fish, from being able to obtain it in great perfection. This ought to be carefully guarded against. "Fish," says Dr. Paris, "is certainly less nutritive than mutton or beef; but the health and vigour of the inhabitants of fishing towns evidently prove that it is sufficiently nourishing for all the

purposes of active life; but in order to satisfy the appetite a large quantity is requisite; and the appetite returns at shorter intervals than those which occur during a diet of meat. Nor does this species of food produce the same stimulus to the body, the pulse is not strengthened as after a repast of flesh; and that febrile excitement which attends the digestion of the more nutritive viands is not experienced. Hence fish affords a most valuable article of diet to invalids labouring under particular disorders; for it furnishes a chyle moderately nutritive, but at the same time, not highly stimulant. From the nature of its texture it does not require a laborious operation of the stomach, although it is sufficiently solid to rescue it from those objections which have been urged against liquid or gelatinous food. From the observations just offered, on the nutritive powers of fish, it must follow that such a diet is not calculated to restore power to habits debilitated by disease, and should never be directed under such circumstances, but from the conviction, that the digestive powers are unable to convert stronger aliment into chyle."*

Vegetables are not so quick of digestion as animal

^{*} Cyclopædia of Practical Medicine. Art. Dietetics.

food, and are therefore not so well adapted to weak stomachs; besides, when they are not readily digested, they quickly undergo the acetous fermentation, and thus produce flatulence and heartburn. Neither do the digestive organs quickly assimilate soups or broths, besides which, these articles, unless they are made very strong indeed, do not afford sufficient nutriment. When however, from particular circumstances, chicken, veal, and mutton broths, or beef-tea are taken by the invalid, they ought to be thickened with bread, barley, or rice, and no other sort of food should be taken at the same time. Fat and oily meats are not only slow of digestion, but when taken by delicate invalids, they load and injure the tone of the stomach. Pastry, rich cakes, and puddings are also injurious, and should be carefully abstained from, as they contain much fatty and oily matter.

The dyspeptic invalid's diet should consist of plain well-cooked animal food, in a moderate quantity, without condiments, and with a fair proportion of bread and mealy potato, or what is better, boiled rice. The different kinds of animal food, as mutton, game, venison, or poultry, may be constantly varied; but it is desirable that each meal should

consist of only one or at most two separate dishes, both because such meats being unmixed are more readily digested, and because most invalids when they have a plurality of dishes are apt to take a greater quantity than is proper at one particular time. Fluids, in general, ought not to be taken with a principal meal, as they both dilute the gastric juice and injure the tone of the stomach. One of our most eminent authors thus expresses himself upon this subject: "We believe that much of the thirst which is made the excuse for drink, both at and after dinner, arises either from a bad habit cultivated by long usage, or from eating too much in quantity, or food of an improper quality. We know several instances of dyspeptics, who never could dine without drink, both at and after eating; but who, on being put on a proper plan of diet, both as to kind and amount, required no drink at all, or not more than a cup of coffee when the repast was finished. We repeat it then that thirst, or the desire for more than a very little drink with our principal meal, is in general a symptom that there is 'something rotten in the constitution of Denmark." **

^{*} Medico-Chirurgical Review, 1827.

Attention must also be paid to the quantity as well as the quality of the diet, since even the most easily digestible articles when taken in excess by a dyspeptic patient will produce all the bad effects of the most indigestible. Dr. Cheyne, Mr. Abernethy, and others, have attempted to lay down precise rules as to quantity; but this must not only depend upon the peculiar constitution of each patient, but even the same individual will require more or less, according to the amount of exercise he may take. It was the opinion of Mr. Abernethy that the dyspeptic might be almost regardless of the quality, if he rigidly observed the necessary restrictions in regard to quantity; but it is assuredly of great importance that those should pay the strictest attention to the nourishing quality of their diet who are debilitated by disease of a tuberculous character, as their object is not merely to keep their digestive organs in a healthy condition, but to restore lost vigour, and to acquire increased strength to resist the progress of disease. Nor is this attention to diet less necessary to those who are free from actual disease; but who have received hereditarily, or have acquired a predisposition to tubercular consumption: indeed it forms one of the most powerful means of resisting the malady, and at length overcoming the

tendency to it. To be truly effectual this attention ought to commence with infancy, and at this age the most proper food is the parent's milk; at least if the parent be strong and healthy; if otherwise a proper nurse ought to be chosen, during the time of suckling. The diet of the nurse should be light and nutritious, but not too stimulating and exciting. As soon as teething is accomplished the food may be more substantial, but this must be regulated by the strength of the child. "In proportion to the delicacy of the child, the diet will in general require to be mild; while he thrives upon farinaceous food, milk, and light broths, no stronger or more substantial diet need be used during the first two years; when he looks healthy, and grows, and his bowels are regular, (for this is one of the surest indications that the food is suited to the digestive organs,) we have the best proofs that the diet agrees with him. When, on the other hand, the child appears heated or flushed towards evening, drinks greedily, and more than is usual in children of the same age, and when the bowels do not act regularly, we may be assured that there is something wrong in the regimen, or some derangement in the functions of the digestive organs, which requires immediate

attention. There is no greater error in the management of children, than that of giving them animal diet very early. To feed an infant with solid animal food before it has teeth proper for masticating, shows a total disregard to the plain indications of nature in withholding teeth suited to this purpose, until the age at which the system requires solid food. Before that time milk, farinaceous food, and animal broths, afford that kind of sustenance which is at once best suited to the digestive organs, and to the nutrition of the system. The method of mincing and pounding meat as a substitute for mastication, may do very well for the toothless octogenarian, whose stomach has been habituated to concentrated nutriment; but the digestive organs of a child are not adapted to the due preparation of such food, and will be disordered by it. When the child has the means of masticating, a little animal food may be allowed; but at first this should be of the lightest quality, and allowed on alternate days only, and even then its effects should be watched for all changes in the regimen of children should be gradual.

"The observation of the frequent origin of scrofulous disease in defective nourishment has led to

the opposite extreme of overfeeding; and children who are disposed to tuberculous disease are too often put upon a regimen which favours the development of the disease which it is intended to prevent. By persevering in the use of an over-stimulating diet the digestive organs become irritated, and the various secretions immediately connected with, and necessary to digestion, are diminished, especially the biliary secretion, at least, the sensible qualities of the bile enable us better to observe its changes. Constipation of the bowels, and eongestion of the abdominal eireulation sueceed, followed by the train of consequences which have already been detailed. Children so fed become, moreover, very liable to attacks of fever, and of inflammation, affecting particularly the mueous membranes, and measles, and the other diseases incident to childhood are generally severe in their attack."*

The mind exerts great influence on the process of digestion, and children are good examples of this effect, being free from eare and anxiety: if their diet has been of a proper kind, and moderate in quantity, they soon resume their amusements, while

^{*} Dr. Clark on Consumption and Scrofula, p. 283.

digestion and nutrition go on uninterruptedly. Cheerful conversation, with a gay and joyous mind, is, doubtless, also very serviceable even to adults. "Laughter," says Hufeland, "is one of the greatest helps to digestion with which I am acquainted; and the custom prevalent amongst our forefathers,—of exciting it at table by jesters and buffoons, was founded on true medical principles. In a word, endeavour to have cheerful and merry companions at your meals; what nourishment one receives amidst mirth and jollity will certainly produce good and light blood."

Assuredly an anxious and care-worn mind soon impairs the process of digestion; hence the emaciated appearance of those who are ill at ease, either from disappointed ambition, envy, or anxiety. This fact did not escape the observation of our immortal Poet, who makes Cæsar exclaim,

"Let me have men about me that are fat,—
Sleek-headed men, and such as sleep o'nights:
You Cassius has a lean and hungry look;
He thinks too much;—such men are dangerous."

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